CHOICE IN TEACHERS' INSERVICE: EFFECTS ON LEARNING AND ATTITUDE

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by

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An abstract of a Dissertation by
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May 1983
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The problem. The purpose of this study was to examine the effects of teacher choice of an inservice treatment strategy on the teacher's attitude toward the instructional experience and the knowledge gained.

Procedures. A control group (53) was assigned to one of three instructional treatment strategies while the experimental group (89) was given a choice. The three instructional treatment strategies were (1) lecture, (2) discussion, and (3) self-instruction. Each subject was pre- and post-tested on a knowledge test of the Des Moines Spelling Plan. Three attitude questions were asked of each subject at the time of the post-test.

Findings. The subjects in the choice group did not score higher on a knowledge test than those who were assigned to the same strategy. The subjects in the choice group did have a more positive attitude about their learning experience than those who were assigned to the same strategy.

Conclusions. Significant learning gains were made in all three inservice strategies. There were no differences in learning among the strategies. Subjects in the choice groups in all three learning strategies were more positive about their learning experience.

Recommendations. Further research is needed to: (1) Determine pre- and post-test impact on the learner's gained knowledge and choice of delivery mode. (2) Refine developmental theory as it applies to practice so curriculum can be matched to various stages of adult development. (3) Help establish guidelines that link cognitive-developmental theory to instructional interventions. (4) Find methods of promoting teacher development toward higher ego, moral and conceptual levels. (5) Replicate this study in other locales with different subjects and options of inservice treatment modes to determine if both learning and attitude can be improved.

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CHAPTER ONE

Introduction

As school systems seek ways to insure maximum growth for their students and effective change in curriculum and instruction they look to both staff development and organizational development. Each is dependent on the other. Change and growth are believed to be necessary for a school or staff or it may atrophy, become obsolete and become a burden to the community it serves.[1] The handbook on professional staff study of the Des Moines Independent School District points out the necessary emphasis for this two-pronged approach.

> The proposed program attempts to provide a balance between the educational goals of the District and the needs of the staff members both individually and collectively. As you know, the goals of the District and the needs of any part of its staff may not always be in balance, but the validity of any staff development effort must satisfy the demands of these two criteria.[2]

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[1] Barbara D. Day, "Forward," Staff Development and Organization Development. 1981 Yearbook (Alexandria, VA: Association for Supervision and Curriculum Development, 1981). (The Association will hereafter be referred to as ASCD.)

[2] Des Moines Public Schools, The Professional Study Principal Handbook (Des Moines, Iowa: Des Moines Public Schools, 1973), p. 11.

It would appear, as stated by Caldwell and Wood, that two major blocks to successful staff development are negative attitudes and limited commitment to inservice education.[1] This study tests the effects on information and attitude when teachers are given a choice of how they will learn new information.

An individual's learning and growth takes place throughout her[2] lifetime and must continue to be a renewing process. Alfred Whitehead, in 1931, was seemingly the first to point out that the life span of an individual was becoming longer than the time span of major cultural change.[3] The knowledge a person gains by the age of twenty-one is largely obsolete when they reach forty and skills that made them productive in their twenties will be out of date by their thirties. It is, therefore, no longer functional to define education as a transmitting process of what is known but as a lifelong process of discovering and inquiry.[4] "Clearly, the very

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[1]Sarah Caldwell and Fred Wood, The Developer (Oxford, OH: National Staff Development Council, 1981), p. 1.

[2]In an attempt to avoid reader distraction, all odd-numbered chapters will make reference to she/her as appropriate and all even-numbered chapters will make reference to he/him/his.

[3]Alfred North Whitehead, "Introduction," Business Adrift, ed. Wallace B. Donhan (New York: McGraw-Hill Book Co., 1931), pp. viii-xix.

[4]Malcolm Knowles, The Modern Practice of Adult Education: Andragogy Versus Pedagogy (New York: Association Press, 1970), p. 37.

survival of civilization requires that systematic learning continue beyond youth, and this is the first time in history that this is so."[1]

Therefore, it is important to deal with organizational growth and with staff development that will serve both the organization and the individual.[2] "Organizations are successful in fulfilling their mission only to the degree that the individuals within them understand and contribute to the achievement of mutually-acceptable goals."[3] Inservice education should be responsible for maintaining the continuity of quality in our curriculum, initiating curricular change, responding to educational needs, and assisting staff members in self-appraisal and growth.[4] The 1980's promise to be the decade of staff development for Des Moines teachers. Organizational changes have been planned that will affect all staff at each grade level. As we plan staff development

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[1]Malcolm Knowles, "Andragogy, Not Pedagogy!" Adult Learning and Instruction, ed. Stanley M. Grabowski (Washington, D.C.: Adult Education Association of the U.S.A., 1970), p. 71.

[2]"Forward," Staff Development and Organization Development.

[3]Betty Dillon-Peterson, "Staff Development/Organization Development Perspective 1981," Staff Development and Organization Development, p. 3.

[4]Leslie J. Bishop, Staff Development and Instructional Improvement: Plans and Procedures (Boston: Allyn and Bacon, 1976), p. 1.

activities to accomplish Des Moines Schools' "mission," what methods can most effectively assist teachers in the change process and in their understanding and acceptance of district goals?

Will providing teachers with options for the way they receive inservice education help to accomplish this goal? If teachers are allowed to make a personal decision about the way they learn required information, will they learn the necessary skills and information and have a more positive attitude toward the learning experience?

Bruce Joyce states that inservice education in the United States is one of the largest failures in western society. Teachers say they are not getting the help they need and school administrators say they are not providing the help they want to provide.[1] Inservice education has been called

> . . . the slum of American education, as it is now constituted. It is disadvantaged, poverty-stricken, neglected, and has little effect. Most inservice efforts are irrelevant and ineffective, a waste of time and money.[2]

Joyce asserts that

> what is needed is not a pasting up of the old machine but a building of the new one. There

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[1]Bruce Joyce, What Research Says About Inservice Education, ASCD cassette 1236 (Alexandria, VA: ASCD, 1977).

[2]Fred H. Wood and Steven R. Thompson, "Guidelines for Better Staff Development," Educational Leadership, 37, No. 37 (1980), 374-79.

> is something wrong with too many of the major dimensions of inservice education as it is presently being practiced.[1]

Joyce, Howey and Yarger conducted a national review of inservice teacher education resulting in a discouraging and depressing account of failure. More than 1000 school personnel, community, congressional and state department members were interviewed and some 2000 volumes, 600 journal articles and major position papers were reviewed.[2]

The need to improve inservice education for school personnel has existed for many years and is increasing for the following reasons:

1. Declining enrollments and work force reductions create a necessity for schools to develop their current human resources over hiring new personnel.

2. As educational reform demands increase, such as back to basic, mainstreaming, accountability, schools have attempted to implement new programs that require new attitudes and skills on the part of current staff.

3. Traditional practices are outmoded and resources are scarce.[3]

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[1]Bruce Joyce, "Structural Imagination and Professional Staff Development," Issues in Inservice Education, ed. National Council of States on Inservice Education (Syracuse, NY: Syracuse University, College of Education, 1977), p. 18.

[2]B. Joyce, K. Howey, and S. Yarger, Issues to Face, Report One: Inservice Teacher Education (Palo Alto, CA: Education Research and Development Center, 1976), p. 1.

[3]Richard Arends, Richard Hersch, and Jack Turner, "Inservice Education and the Six O'clock News," Theory into Practice, 17, No. 3 (1978), 196-205.

In the past it has been possible to effect school reform through teacher turnover and recruitment. With high teacher mobility a school could count on replacing as much as one-fifth of its staff each year. However, today teacher mobility is constrained by the teacher surplus, the availability of maternity leaves, the need for multiple incomes per family, and the effects of unionization. It is true now more than ever before, to change schools we must change teachers as they are working in the schools.[1]

> When there was high teacher turnover in schools, the individualistic approach could coexist with the mission approach. Teachers could find schools relatively compatible with their own values and style; administrators could find teachers whose interests and abilities were reasonably matched with the school's superordinate goals.[2]

It is now more imperative than ever to train teachers in a school to acquire the knowledge, attitudes and skills required to fulfill the school's mission while also providing for the individual needs of staff.

Is it possible to improve the effectiveness of inservice education, specifically as it relates to increased knowledge and positive teacher attitude, by providing teachers a choice of how they learn new information? Will

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[1]Dale Mann, "The Politics of Inservice," Theory into Practice, 17, No. 3 (1978), 212-17.

[2]Judith Schiffer, "A Framework for Staff Development," Teachers College Record, 80, No. 1 (1978), 4-22.

providing an option in the delivery of inservice have an impact on assisting schools in fulfilling their mission?

Rationale for the Study

As we closely examine the objective of making a program or curriculum change in a district, school, or classroom, we quickly realize the implications involved to accomplish this goal. We are teaching the teacher, not a subject. Four problematic areas of implication should be:

1. To recognize that adults can learn as developmental research has proven. The static view of adulthood has changed to one of dynamics. Earlier attention to human growth and development was focused on childhood and adolescence while adulthood was considered stable. However, our attention has now focused on the dynamics of the processes by which adult life changes. This focus has resulted from rapid social change, pluralistic values, and an aging population.[1]

2. To view adults differently than we view children, our focus should be on andragogy, the art and science of helping adults learn, rather than pedagogy, the art and science of teaching children. Knowles identifies four crucial assumptions about the characteristics of adult learners that are different from the assumptions about child learners.

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[1]Alan B. Knox, Adult Development and Learning (San Francisco: Jossey-Bass Publishers, 1977), p. 1.

These are: (1) the adult's self-concept moves from dependency to self-directing; (2) adults accumulate a growing reservoir of experience that is a resource for learning; (3) the adult's readiness to learn becomes oriented increasingly to the developmental tasks of their social roles; and (4) the adult's orientation toward learning shifts from subject-centeredness to one of problem-centeredness as their time perspective changes from one of postponed application of knowledge to immediacy of application.[1]

3. To determine if adult learning should be viewed as growth potential and not remedial or deficient.

4. To recognize that a curricular or program change requires a behavior change on the part of the teacher. Changes in behavior are a result of personal effort or external circumstances and are shown through skills, knowledge, attitudes, and understandings.[2]

As program or curriculum changes are planned for a school district is it necessary or even practical for deliverers or inservice to "investigate the total person?" Should they examine her age, perceptions, roles, relationships, past experiences and thoughts in all aspects of her

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[1]Knowles, Modern Practice, p. 39.

[2]Judy-Arin Krupp, "A Phenomenological Study of Teacher Perceptions of Life Developmental Changes as Related to Inservice Behavior and Needs," Diss. Univ. Connecticut, 1980, pp. 1-2.

existence as suggested by Krupp?[1] Chambers states that we must realize that

> social influences and experiences affect the teacher's total system of "self" constructs. A wider range of factors, therefore, will have to be considered when planning programs if one is to develop programs which take account of the "total person" who is vocationally a teacher.[2]

Rubin makes the point that

> Teachers differ tremendously in their strengths and weaknesses. In their intellectual backgrounds, and in their interpersonal responses. Yet we tend in our teachers education efforts to treat them as all of a kind...as things now stand there is little if any effort to differentiate individual need in professional improvement programs.[3]

However, Brim and Tollett have demonstrated in their research that teacher needs are constantly changing.[4] Teachers' day-to-day experiences provide a basis for their perceiving, behaving, becoming.

How realistic is it to expect school districts to acquire the necessary information to obtain a holistic view of each teacher and thereby plan programs to meet each

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[1]Krupp, pp. 72-73.

[2]J. Chambers,"In-service Training and the Needs of Teachers," Trends in Education, 3 (1977), 12-21.

[3]L. J. Rubin, ed., Improving Inservice Education: Proposals and Procedures for Change (Boston: Allyn & Bacon, 1971), pp. 249-50.

[4]Jack L. Brim and Daniel J. Tollett, "How Do Teachers Feel About In-Service Education?" Education Leadership/ Research Supplement, March, 1973/74, pp. 521-24.

teacher's needs while also fulfilling its organizational goals? Can they accomplish both tasks within a differing framework? How effective would district inservice efforts be if teachers were informed of the necessary change(s) needed, a time frame for accomplishment, and given a variety of options to learn the new information?

If motivation to learn far outweighs any particular method of study[1] can we motivate teachers to change behavior, gain knowledge and achieve a more positive attitude by first identifying the district goals and then offering a choice of instructional delivery options? The district thereby would be asking adults to make the decision to best meet their own needs as determined not by the inservice providers but by the teachers themselves.

Statement of the Problem

The problem is to determine the differences, if any, in the effects of giving classroom teachers a choice of how they receive inservice training on both their attitude toward the inservice and the skills and knowledge they gain from the inservice.

Based on a review of related literature, several questions generated for investigation are as follows:

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[1]R. L. Sutherland, "Can an Adult Change?" The Teacher as a Person, eds. F. Natalicio, C. Hereford, and C. Martin (Dubuque, Iowa: William D. Brown Co., 1971), p. 76.

1. Does choosing a method of inservice for learning required information have an effect on the teacher's attitude toward the inservice?
2. Does choosing how to learn required information have an effect on the teacher's knowledge gained from the inservice?
3. Is there a difference in the teacher's attitude toward the inservice process among the four treatment groups?

Treatment Group 1

Pre-test (knowledge of Des Moines spelling plan)
Given packet of information
Attended a one-hour presentation
No follow-up included
Post-test (Knowledge/Attitude Questionnaire)

Treatment Group 2

Pre-test (Knowledge of Des Moines spelling plan)
Given packet of information
No presentation provided
Follow-up discussion held one week after receiving the packet of information
Post-test (Knowledge/Attitude Questionnaire)

Treatment Group 3

Pre-test (Knowledge of Des Moines spelling plan)
Given packet of information
No presentation provided
No follow-up discussion held
This group was responsible to learn about the Des Moines spelling plan on their own from studying the contents of the packet they had been provided.
Post-test (Knowledge/Attitude Questionnaire)

Treatment Group 4 (No Analysis)

Pre-test (Knowledge of Des Moines spelling plan)
Given packet of information

Attended one-hour presentation
Follow-up discussion held one week after presentation
Post-test (Knowledge/Attitude Questionnaire)

4. Is there a difference in the teacher's gained knowledge among the four treatment groups?

Null Hypotheses

The five major hypotheses are:

1. Teachers who are allowed to choose an inservice treatment strategy do not have a more positive attitude about the inservice strategy than teachers who were assigned to the same strategy.

2. Teachers who are allowed to choose an inservice treatment strategy do not have a more positive attitude that the strategy would be effective for other grade level teachers than teachers who were assigned the strategy.

3. Teachers who are allowed to choose an inservice treatment strategy do not have a more positive attitude that the strategy would be a good method to use for other inservice days than teachers who were assigned the strategy.

4. Teachers who are allowed to choose an inservice treatment strategy do not score higher on a knowledge test than those who were assigned to a strategy.

5. Choice and treatment are not independent.

Limitations of the Study

1. This study is limited to inservice that is planned for program or curriculum change within a district. It is a district mandate to meet district-determined needs, not teacher initiated.

2. This study is limited to classroom teachers who teach spelling in nineteen Des Moines elementary schools

who are being inserviced.

3. Critical to this study is the fact that it is not generalizable to other than the Des Moines Spelling Plan.

4. This study is limited to teacher behavior change in knowledge and understanding, and attitude.

Definitions

Inservice/staff development is a process designed to promote personal and professional growth for individuals leading to better learning for students and continuous self-renewal for educators and schools.

District mandated change is a decision made by central administration and imposed on teachers.

Organizational development is a process undertaken by an organization for self-improvement while providing for individual, personal and professional growth.

Knowledge gained refers to one of the dependent variables.

Andragogy is the art and science of helping adults learn.

Pedagogy is the art and science of teaching children.

CHAPTER TWO

Review of Related Literature

Introduction

The purpose of this chapter is to present a brief summary of our present state of knowledge about adult development and learning, adult behavior as it relates to choice, and characteristics of purported effective inservice methods. It also identifies the rationale for studying adult development as a means to understanding teacher behaviors related to inservice. Chickering believes that research and theory concerning adult development is the most solid basis for understanding adult motives.

> This information has clear and powerful implications for educational motives, orientations toward knowledge, teaching practices, approaches to evaluation,...Therefore, systematic organization of information concerning adult development...can provide a conceptual matrix to those concerned with the education of adults.[1]

The Adult Learner

Adult development-inservice relationship has not been

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[1]A. Chickering,"Adult Development? Implications for Higher Education," The Adult Life Cycle: Training Manual and Reader, eds. V. McCoy, C. Ryan, and J. Lichtenberg (Lawrence: University of Kansas, Adult Life Resource Center, 1978), p. 191.

recognized according to Krupp.[1] She quotes Sarason[2] as saying

> What is not recognized or verbalized cannot be dealt with, and if it is important and not recognized, efforts to introduce substantive change, particularly in the classroom, result in the illusion of change.[3]

Our major purpose of inservice is to improve student learning and that can only be accomplished through teachers who are continuing in their own growth. Though the teacher as a growing person is complex we are reminded to consider the needs of each individual as we plan inservice.[4] Witherell and Erickson believe that adult development is the basic issue of teacher education.[5] They further state that the improvement of teaching depends on viewing the teacher "as potentially growing and changing, as a colleague in classroom research, and as an important source of knowledge in the field of human development.[6] Tibbles states that we cannot

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[1]Krupp, p. 96.

[2]S. B. Sarason, The Culture of the School and the Problem of Change (Boston: Allyn & Bacon, 1971), p. 78.

[3]Krupp, p. 96.

[4]Krupp, pp. 95-96.

[5]C. Witherell and L. Erickson, "Teacher Education or Adult Development," Theory into Practice, 17 (1978), 229.

[6]Witherell and Erickson, p. 237.

develop rewarding programs unless we understand the learning needs of adults and how changing roles and developmental tasks affect these needs.[1] Boy and Pine believe that teaching is what the teacher is as a person.[2] This literature review, therefore, follows the suggestions of these authors and first examines adult development.

Adult Development/Learning

Overview

The literature reviewed seemingly identified three categories of adult development: the biological/maturational models, the developmental stage models, and the developmental task models. The theories of developmental task and stage models were investigated because of their focus on the interaction of the adult with the environment. An introduction is given to some of the work done in these fields and then the relatively new concept of andragogy is explained. This study of andragogy (the art and science of helping adults learn), versus pedagogy (the art and science of teaching children) is helpful in our investigation into the relationship of adult development and inservice education.

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[1] L. Tibbles, "Theories of Adult Education: Implications for Developing a Philosophy for Continuing Education in Nursing," Journal of Continuing Education in Nursing, 8 (1977), 28.

[2] A. Boy and G. J. Pine, Expanding the Self: Personal Growth for Teachers (Dubuque, Iowa: W. C. Brown Company, 1971), p. 6.

The biological/maturational models focus on the physiological (aging) and psychoanalytic (growth and personality) and are helpful theories but limiting for they do not generate information about groups of people.[1] The biological model is one of decline and adulthood is looked upon as a plateau between growth and death. With today's aging society the concept of adult development takes on added significance.

Development is an orderly and sequential change that adults experience over time in characteristics and attitudes. These changes are not necessarily value oriented but are subtle and gradual and can have either a positive or negative effect, and reflect both necessity and choice.[2] The point of view of life-span developmental psychology is the assumption that life is a continuous change from situation to situation. Each of these changes requires a redefinition of behavior and attitudes as tasks are performed and there is a reorientation and reorganization of the personality.[3]

Adults change and adapt by varying means such as withdrawal, assistance, frantic activity, action contemplation

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[1]Krupp, p. 33.

[2]Knox, pp. 10-12.

[3]B. Abrahams, S. S. Feldman, and S. Nash, "Sex Role, Self-Concept, and Sex Role Attitudes: Enduring Personality Characteristics or Adaptations to Changing Life Situations?" Developmental Psychology, 14 (1978), 393.

or through educative activity.[1] Maturational, developmental, historical and cohort effects will determine which technique will be used.[2] Maturational and developmental factors include age, verbal ability, sense of educational efficacy, past responses, aspirational level, and dogmatism. Historical and cohort effects influence the norms and social structures of our society and in turn affect the individual.[3]

Gould states:

> While children mark the passing years by their changing bodies, adults change their minds. Passing years and passing events slowly accumulate, like a viscious wave, eventually releasing their energy and assuming new forms in altered relationships with both time and people. By recognizing the patterns, we may gain some control over the forces by smoothing the transitions and meeting the peaks and valleys of adult life phases.[4]

"Maturity" is the goal of development but all adults do not reach the same levels of maturity so each functions as a unique entity.[5] Rogers states that a goal toward which persons knowingly or unknowingly strive, is to become more fully one's self and this push for identity causes

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[1]Knox, p. 538.

[2]A. C. Walter, A Step Backward in Research (ERIC ED 123 378), p.9.

[3]Knox, p. 538.

[4]R. Gould, "Adult Life Stages: Growth Toward Self-Tolerance," Psychology Today, February 1975, p. 78.

[5]G. Inlow, Maturity in High School Teaching (Englewood Cliffs, NJ: Prentice-Hall, 1963), p. 15.

underlying conflicts and problems in development.[1] There is a stabilizing of ego identity, a freeing of personal relationships, a deepening of interests, and a humanizing of values as the individual comes to know the self. These attributes allow the adult to influence others more; to be more spontaneous, friendly, and respectful; to become absorbed more fully in a task; and to increasingly discover the human meaning of his values.[2]

McCoy summarizes the developmentalist point of view when he says that adulthood is a period of active and systematic change over life time, predictable sequential stages, unique heredity, environment, and personal integration, developmental tasks triggering "teachable moments," and crisis periods of vulnerability and potentiality between stages. Either growth or stagnation are the outcomes.[3] Krupp reports that an increasing body of literature and research in adult development based on functional task and structural stage models indicates that although most adults seem to stabilize at a stage, intervention to promote stage

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[1]C. Rogers and W. Coulson, eds., Freedom to Learn: Studies of the Person (Columbus, OH: Charles E. Merrill, 1969), p. 60.

[2]R. W. White, Lives in Progress (New York: Holt, Rinehart and Winston, 1966), pp. 342-58.

[3]McCoy, Ryan, and Lichtenberg, p. 10.

growth may be possible.[1]

Stage Models (Structural)

The theories of cognitive-developmental growth are based on the assumption that human development results from changes in cognitive structures. The theories of Piaget, Kohlberg, Loevinger, and Harvey, Hunt and Schroder all illustrate a hierarchical sequence of stages with the higher stages being more fully developed in the sense that they include multiple points of view and greater complexity. A structural framework is provided in the thought patterns in cognitive processes of Piaget; Kohlberg's moral reasoning processes; Loevinger's ego-maturity processes; and Harvey, Hunt and Schroder's conceptual processes.

Piaget: Cognitive development. Piaget, as reported by Goodnow, has been most concerned with how actions become translated into thought. Piaget's theory is based on the assumption that "knowledge about reality is not attributable entirely to experience (the action of things upon us) but also to reason (our mental actions upon things).[2]

The doctrine of cognitive stages is the core of

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[1]Krupp, p. 1.

[2]Jacqueline J. Goodnow, "Problems in Research on Culture and Thought," in D. Elkind and J. H. Flavell, Studies in Cognitive Development (New York: Oxford University Press, 1969), p. 454.

cognitive-developmental stage position and Kohlberg cites Piaget's list of general characteristics:

1. Stages imply distinct or qualitative differences in modes of thinking or of solving the same problems.

2. These form an invariant sequence; while cultural factors may speed up, slow down, or stop development, they do not change its sequence.

3. Each stage forms a structured whole. It represents an underlying thought organization.

4. Cognitive stages are hierarchical integrations. Stages form an order of increasingly differentiated and integrated structures to fulfill common functions. Higher stages reintegrate structures found at lower stages.[1]

In his research on thought patterns with children and adolescents Piaget concluded that there are four consistent systems within certain broad age ranges. He identifies these stages as zero through two years of age as Sensory-Motor; two through seven, Intuitive or Preoperational; seven through eleven, Concrete Operations; and eleven through sixteen, Formal Operations.[2]

Piaget has not identified adult cognitive stages but does recognize that some adults continue in their cognitive

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[1]Lawrence Kohlberg, "Continuities in Childhood and Adult Moral Development Revisited," Life-Span Developmental Psychology, eds. Paul B. Baltes and K. Warner Schaie (New York: Academic Press, 1973), pp. 181-82.

[2]Jean Piaget, "Correspondences and Transformations," The Impact of Piagetian Theory on Education, Philosophy, Psychiatry and Psychology (Baltimore: University Park Press, 1979), p. 17.

development through early adulthood from concrete operation continuing into the stage of formal operational thought for some slower developers and for others a stabilization of formal thought which is shown by increased rejection of lower forms of thinking.[1]

Research on young adults and college students reveal that many--perhaps up to 50 percent--have not developed these logical rational, abstract thinking processes as adolescents.[2]

Kohlberg: Moral development. Kohlberg has developed a theory of moral and ethical development and in it six stages of thinking represent different systems people actually use in dealing with moral questions. These stages are: Stage 0: Egocentric judgment; Stage 1: Punishment and obedience; Stage 2: Instrumental relativist; Stage 3: Good boy, nice girl; Stage 4: Law and order; Stage 5: Social contract legalistic; and Stage 6: Universal ethical principle. He found that each stage requires a wider ability while interacting to take the perspective of others.[3]

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[1]Baltes and Schaie, pp. 184-85.

[2]L. Kohlberg and R. DeVries, "Relations Between Piaget and Psychometric Assessments of Intelligence," The Natural Curriculum, ed. C. LaVelelli (Urbana, IL: University of Illinois Press, 1971).

[3]Lawrence Kohlberg, "Kohlberg on Moral Development and Moral Education," Moral Development, Moral Education, and Kohlberg, ed. Brenda Munsey (Birmingham, AL: Religious Education Press, 1980), pp. 91-93.

Loevinger: Ego development. Loevinger's theory of ego development conceptualizes seven sequential stages of personality development in adulthood (Figure 1)[1] that include those of pre-social, impulsive, self-protective, conforming, conscientious, autonomous and integrated. The four major dimensions of these stages are: impulse control-character development, interpersonal style, conscious preoccupations, and cognitive style. Changes in developmental stages require changes in these four major areas. These changes need not be at the same time or in one-to-one order but growth in one is dependent on growth in another.[2]

Several theorists have developed comprehensive stages of ego development. Chickering reports Loevinger's summary (Figure 2)[3] of the similarities of Pack and Havighurst (1960); C. Sullivan, Grant and Grant (1957); Harvey, Hunt and Schroder (1961); Vanden, Daele (1968); and Loevinger (1970).

> All of the conceptions project an abstract continuum that is both a normal developmental sequence and a dimension of individual differences in any age cohort. All represent holistic views of personality and all see behavior in terms of meaning and purpose...all are more or less concerned with impulse control and character development, with interpersonal relations, and with cognitive preoccupations, including self-concept...finally, although the sequence of stages is not identical

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[1]Chickering, p. 197.

[2]Chickering, p. 196.

[3]Chickering, p. 195.

STAGES OF DEVELOPMENT[1]

Stage	Impulse Control, Character Development	Interpersonal Style	Conscious Preoccupations	Cognitive Style
Presocial		Autistic	Self vs. non-self	
Symbiotic		Symbiotic		
Impulsive	Impulsive, fear of retaliation	Receiving, dependent, exploitive	Bodily feelings, especially sexual and aggressive	Stereotypy, conceptual confusion
Self-protective	Fear of being caught, externalizing blame, opportunistic	Wary, manipulative, exploitive	Self-protection wishes, things, advantage, control	
Conformist	Conformity to external rules, shame, guilt for breaking rules	Belonging, helping, superficial niceness	Appearance, social acceptability, banal feelings, behavior	Conceptual simplicity, stereotypes, cliches
Conscientious	Self-evaluated standards, self-criticism, guilt for consequences	Intensive, responsible, mutual, concern for communications	Differentiated feelings, motives for behavior, self respect, achievements, traits, expression	Conceptual complexity, idea of patterning
Autonomous	Add: Coping with conflicting inner needs, toleration	Add: Respect for autonomy	Vividly conveyed feelings, integration of physiological and psychological, psychological causation of behavior, development, role conception, self-fulfillment, self in social context	Increased conceptual complexity, complex patterns, toleration for ambiguity, broad scope, objectivity
Integrated	Add: Reconciling inner conflicts, renunciation of unattainable	Add: Cherishing of individuality	Add: Identity	

Note—"Add" means in addition to the description applying to the previous level.
[1]From Loevinger, J., Wessler, and Redmore, C. **Measuring ego development.** San Francisco, Calif.: Jossey-Bass, Inc., 1970.

Figure 1

Stages of Personality Development

EGO OR CHARACTER TYPES

Author	Amoral	Fearful Dependent	Opportunistic	Conforming to Persons	Conforming to Rule	Principled Autonomous
Pack & Havighurst (1960)	1. Amoral		2. Expedient	3. Conforming	4. Irrational-conscientious	5. Rational-altruistic
C. Sullivan, Grant & Grant (1957)*	1. Presocial	2. Passive-demanding	3. Conformist (exploitative)	3. Conformist (cooperative)	4. Authoritarian 5. Guilty	6. Self-consistent 7. Integrative
Harvey, Hunt & Schroeder (1961)	Sub-1	1. Absolutistic-evaluative	2. Self-differentiating	3. Empathic		4. Integrated-independent
Loevinger (1970)	1. Presocial symbiotic	2. Impulse-ridden, fearful	3. Self-protective	4. Conformist	5. Conscientious	6. Autonomous integrated
Vanden Daele (1968)	1. Excitation-oriented	3. Conflict-avoidant	5. Peer and reciprocity oriented	6. Social conformist	7. Duty and responsibility	8. Independent agent orientation 9. Self-social integration

*Adapted from Kohlberg, 1973, p. 46.

Figure 2

Stages of Ego Development

from author to author there are many recurring similarities.[1]

Harvey, Hunt, Schroder: Conceptual development. Harvey, Hunt and Schroder acknowledge four stages of cognitive complexity. The beginning stage, unilateral dependence, is characterized by external control; things are endowed with power as in magical thought; answers are accepted as absolutes, thinking is more concrete. Behavior at this stage displays greater immediacy, sensitivity to limits, right and wrong, tolerated not tolerated, and by a greater submissiveness to external controls. This, first stage is concrete, unilateral and absolute.

The second stage, negative independence, is functioning that is related negatively to external constraints. It is a lessening of the importance of external control and the beginning of internal control. This stage proceeds from submission to rebellion, compliance to stubbornness, rituals to opposition. On first observation it would appear that first stage functioning would be more desirable. Second stage is more immature, more threatening, less predictable or dependable. It is important to understand that second stage functioning is essential to development in spite of the apparent disagreeable qualities.

Third stage, conditional dependence and mutuality, is

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[1]Chickering, p. 196.

characterized by "as if" or conditional functioning. Progression is from external structure, through resistance to external control, on to a more empirical approach. The most important concept is that of causality. The individual's behavior becomes the independent variable rather than the dependent one and the person at this stage of development is more likely to think the locus of causality resides in his own behavior. It is at this stage that mutuality, getting satisfaction from pleasing others, and empathy replace unilateral functioning and a concern for power and dominance. A new basis for developing relationships to others is established.

In the fourth stage, interdependence, neither mutuality nor autonomy interfere with each other. There is an increase in self-reliance and awareness characterized by a stronger capacity to tolerate anxiety and face problems. Abstract standards are developed through exploration of alternative solutions against a variety of criteria.

It is significant to note that a person may not reach the same level of abstractness of subject-object ties in all developmental areas. Some could reach the fourth stage in many areas and others may function at stage four in some areas but stage two in others.[1]

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[1]O. J. Harvey, David E. Hunt and Harold M. Schroder, Conceptual Systems and Personality Organization (New York: John Wiley and Sons, Inc., 1961), pp. 87-112.

The research done by Harvey, Hunt and Schroder provided theoretical connection of developmental concepts to teaching. Their work documents that teachers in the third and fourth stages were more effective teachers, functioned at a more complex level, and were more adaptive and tolerant in their style of teaching. They used a variety of teaching models and showed more understanding and empathy for their students. Such teachers provide an abundant learning environment. Research identifies both pre-service and in-service teachers who are at various developmental levels.[1]

Hunt was primarily interested in stages of conceptual development and it was through his colleague, E. V. Sullivan,[2] that conceptual stages were found to be related to ego and moral-ethical stages.

> Sullivan then provided a most important expansion of theory by pushing it to the broader Deweyian notion of a whole person processing experience through a variety of overlapping developmental domains.[3]

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[1]Sharon Nodie Oja and Norman A. Sprinthall, "Psychological and Moral Development for Teacher; Can you Teach Old Dogs?" Value Development, eds. Norman A. Sprinthall and Ralph L. Mosher (New York: Character Research Press, 1978), p. 119.

[2]E. V. Sullivan et al., "A Developmental Study of the Relationship Between Conceptual, Ego and Moral Development," Child Development, 41 (1970), 399-411.

[3]Sprinthall and Mosher, p. 121.

Robert J. Havighurst divides the adult years into three phases "early adulthood," "middle age," and "later maturity." He also identifies ten social roles of adulthood: worker, mate, parent, homemaker, son or daughter, citizen, friend, organization member, religious affiliate and user of leisure time. Performance requirements for each of these social roles change as we move through the three phases of adult life. Developmental tasks are therefore changing as is the readiness to learn. Havighurst, according to Knowles, believes adulthood has its transition points and crisis and it is as much a developmental period as is childhood.[1]

A brief summary of task or age models as identified by Sheehy, Levinson, Gould, Erickson, and Neugarten follows. These theorists are seeking to discover developmental ages rather than stages. In age or task study one is looking at the relationships between age and general orientations, tasks, problems, concerns, or adult characteristics. They identify periods of stability experienced at various ages of life.

Task Models (Functional)

Gail Sheehy in her book "Passages" reported the life stories of 115 middle class Americans between the ages of eighteen and fifty-five. Her findings were:

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[1]Knowles, Modern Practice, p. 46.

1. Men and women continue growing up adult from eighteen to fifty.

2. There are predictable crises (passages) at each step.

3. The steps are the same for both sexes but the developmental rhythms are not.

4. We can use each crisis to stretch to our full potential.[1]

Levinson, Gould and Sheehy. Figure 3, taken from Chickering,[2] summarizes the work of Levinson, Gould, and Sheehy. Their charting of developmental ages begins with the transition from adolescence in the late teens to adulthood in the early twenties. During the twenties a period of "provisional" adulthood is identified with a person's commitment to work, marriage, family, and other adult responsibilities established. The next period they identify happens in the late twenties and early thirties. At this age one re-examines his initial commitments to work, spouse, community and lifestyle and decisions to change, reaffirm, or renew these commitments are made on a more solid basis. Settling down in the 1930's is described as the BOOM period or Becoming One's Own Man. In the 1940's as one continues this transition the awareness of shortening of one's time is

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[1]Gail Sheehy, Passages (New York: Bantam Press, 1974), forward.

[2]Chickering, p. 192.

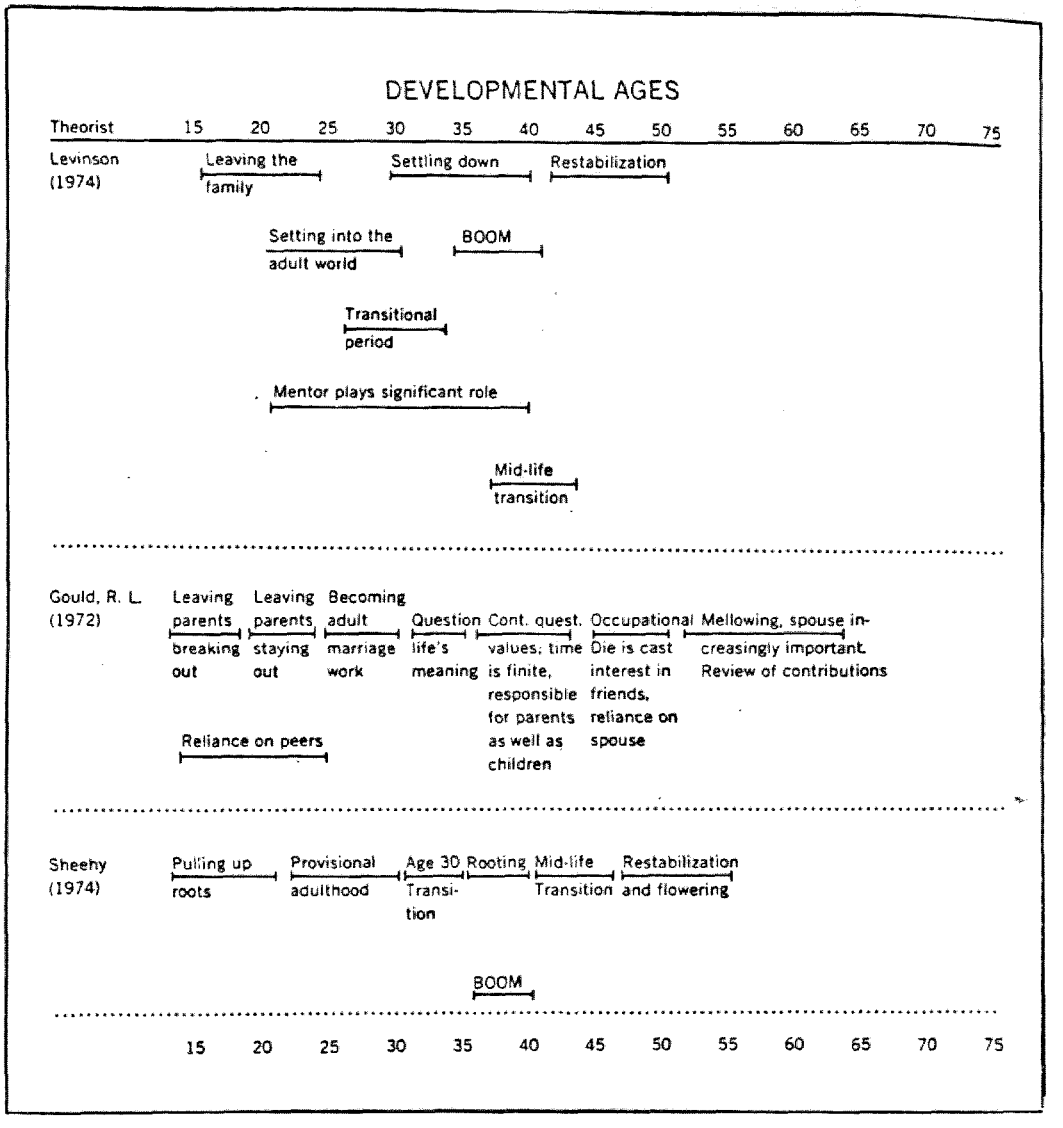

Figure 3

Developmental Ages

heightened by the beginning responsibility for one's parents and continued responsibility for adolescent or college-aged children. Success and achievement levels become more realistic.

Personal values and priorities are examined. One's work or career is reaffirmed with a modification of expectation and drive, or it is changed. A long-term marriage may be upset temporarily or permanently. This restabilization period during the forties and fifties causes friends, relatives, and spouse to become increasingly more significant. Interests outside of work gain more attention as one mellows and increasingly invests in personal relationships.[1]

Bernice Neugarten studied middle age and later life. She contributed insight into the way social and cultural influences affect adult development. Her research reports that most people have definite ideas learned from society. They see appropriate ages identified to do expected things such as marriage, having children, and choosing a career. She also found that in the mid-forties an individual stops thinking in terms of time since birth and begins to compute time left till death.[2] Her work was built on the findings of Erickson. Chickering states

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[1]Chickering, p. 193.

[2]Bernice L. Neugarten, ed., Middle Age and Aging (Chicago: University of Chicago Press, 1968), pp. 22-28.

that Neugarten more than any other theorist "elaborates the role of age and timing in adult development."[1]

This change in concept of time helps determine boundaries for other major changes such as from sense of self-determination to sense of inevitability of life cycle; from mastery of the outer world to withdrawal and preoccupation with innerself and sponsoring others; from achievement to self-satisfaction. She reports that when expected events were on schedule--menopause, death of spouse or even one's own death--then they were not experienced as crisis.[2]

Upon examination of the various age and stage theories, Chickering determines that bridges can be built between these comprehensive theorists as illustrated in Figure 4.[3] Kohlberg has done this to illustrate the relationship between his stages and Piaget's. Chickering has added the general stages of ego development of Perry, cognitive styles of Loevinger and the hierarchy developed by Bloom in Bloom's Taxonomy of Educational Objectives in the Cognitive Domain. The general sequence in cognitive development is from concrete memorization through relationship recognition, to

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[1]Chickering, p. 195.

[2]Neugarten, p. 135.

[3]Chickering, p. 201.

STAGES OF EGO DEVELOPMENT, MORAL AND ETHICAL DEVELOPMENT, AND INTELLECTUAL DEVELOPMENT

Ego Development	Moral and Ethical Development			Intellectual Development	
	(Kohlberg)	(Perry)	(Loevinger)	(Piaget)	(Bloom)
Amoral	Egocentric		Stereotypy, conceptual confusion	Symbolic, intuitive thought	
Fearful-Dependent	Obedience – punishment oriented	Basic duality		Concrete operations, 1. Categorical classification	Memorization
Opportunistic	Instrumental egoism and exchange	Multiplicity prelegitimate		Concrete operations, 2. Reversible concrete thought	Application
Conforming to Persons	Good-boy, approval oriented	Multiplicity subordinate multiplicity correlate or relativism subordinate	Conceptual simplicity, stereotypes, cliches		
Conforming to Rule	Authority, rule, and social order oriented	Relativism correlate, competing, or diffuse	Conceptual complexity, idea of patterning	Formal operations, 1. Relations involving the inverse of the reciprocal Formal operations, 2. Relations or propositions involving triads	Analysis
Principled Autonomous	Social contracts legalistic oriented Moral principle orientation	Commitment – foreseen Initial commitment, implications of commitment, developing commitments	Increased conceptual complexity, complex patterns, toleration for ambiguity, broad scope, objectivity	Formal operations, 3. Construction of all possible relations; systematic isolation of variables; deductive hypothesis testing	Synthesis Evaluation

Figure 4

Stages of Ego Development, Moral and Ethical Development, and Intellectual Development

cognitive processes which construct relationship combinations, isolate variables, or create new combinations of groups, to the ability to apply principles or concepts to new situations and evaluate the results.[1]

Andragogy vs. Pedagogy

Andragogy is the art and science of helping adults learn while pedagogy is the art and science of teaching children. Adults have unique characteristics and three identified by Knowles are self-concept, experience, and time perception.

Self-concept, according to Knowles, is the most important difference between adults and youths as learners. A child moves from complete dependence to becoming an adult psychologically when his self-concept changes to one of autonomy.

> Andragogy is based upon the deep insight that the deepest need an adult has is to be treated as an adult, to be treated as a self-directing person, to be treated with respect.[2]

A second characteristic difference in children and adults is in their experience. Just by having lived longer, adults are richer resources for learning, but adults and children feel differently about their experiences. A child

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[1]Chickering, pp. 199-200.

[2]Knowles, Modern Practice, p. 72.

looks upon experience as something that happens to him while an adult views experience as him self. Adults define themselves in terms of their experience and their self-identity comes from what they have done. They expect to make use of their experience--Malcolm Knowles says "My experience is me."[1]

Time perspective is a third way in which adults and youth differ. A youth's idea of time is immediacy and adults are used to waiting for gratification. In the learning situation, the time perspective is reversed. Youth's learning is one of postponed opportunity to apply or use what they learn and they therefore develop an attitude toward learning that is subject-centered (history, English). An adult's time perspective is immediate application for learning, and therefore problem-centered.

Adult readiness to learn is increasingly oriented to the developmental tasks of his social roles. A developmental task is a task that if achieved successfully will lead to happiness and success with later tasks and failure will lead to unhappiness, societal disapproval and difficulty with later tasks. When a "readiness to learn" is produced its peak is a "teachable moment." The developmental tasks of youth are primarily physiological and mental maturity while those of the adult years are of the evolution of social roles.

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[1]Knowles, Modern Practice, p. 74.

Knowles uses the example of a person's role of worker. ıe first task is to obtain a job, and at this point he is ɛady to learn how to get a job, not how to supervise others. ɛxt he is interested in learning the special skills re- ıired, the standards expected, and how to get along with ɛher employees in order to keep the job. Eventually he is ɛady to learn supervisory skills and later he wants to know ɔout retirement and substitute for work.

Knowles quotes Havighurst as saying:

> People do not launch themselves into adulthood with the momentum of their childhood and youth and simply coast along to old age....Adulthood has its transition points and its crisis. It is a developmental period in almost as complete a sense as childhood and adolescense are developmental periods.[1]

Adult Behavior/Choice

Adults experience behavior changes usually as a result ɛ personal effort or external circumstances that may aid, ıcourage, force, or hinder learning.[2] How effective the ɛarning experience will be depends on the adult's ability ıt is also affected by the approach taken to the learning ɛtivity. Previous experience such as amount and type of ɔrmal education, recent use of learning procedures, and ɛed for increased skill can influence the adult's approach

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[1]Knowles, Modern Practice, p. 47.

[2]Knox, p. 405.

to learning.[1]

Most adults approach a learning activity with expectations and knowledge that will greatly determine the effectiveness of the experience. One type of expectation concerns the process of learning. Adults may prefer reading, observation, discussion, or lecture as a learning procedure.[2]

Some trends in adult learning include the idea that adults can learn almost any subject given sufficient time and attention. Fluid intelligence such as short term memory and abstract reasoning decreases as crystallized intelligence such as general information and formal reasoning increases, and general learning ability is fairly stable.[3]

Knox suggests helping adults develop a more positive approach to education by becoming aware of role models who have already acquired that to which they aspire and to provide "freedom to explore within democratic limits...the achievement of their current educational objectives...."[4]

A review of the literature related to adult choice in inservice education revealed only one study done in 1976 by Terry Giffel of the University of Wisconsin-Madison. Giffel

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[1]Knox, p. 425.

[2]Knox, p. 427.

[3]Knox, p. 464.

[4]Knox, p. 465.

was actually interested in the effects of choice of a preferred learning mode rather than the effect of choice on knowledge gained and attitude as this study is investigating. No significant difference in attitude was found toward the instructional experience as a result of having been assigned or given a choice of instructional mode. Students did not necessarily choose their preferred learning style and when instruction was more in line with the student's preference for a way of learning, there was no significant difference in test results.[1]

This study will provide further investigation into the effects of choice on knowledge and attitude. Change and choice, as viewed in this research, refer to an experiential state. A person feels that he has control of a desired outcome and is not dependent on luck, unmanageable forces, or others. He experiences choice when deciding which of two or more options will be accepted.[2] If the concept of people as "rational animals" is accepted then adults are able to exercise some control over their environment that is:

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[1]Terry C. Giffel, "An Examination of the Effects of Learner Choice of Instructional Mode on Attitude and Ability to Apply the Learned Information by Adults," Diss. Univ. of Wisconsin-Madison, 1976, p. 1.

[2]Ivan D. Steiner, "Three Kinds of Reported Choices," Choice and Perceived Control, eds. Lawrence C. Perlmuter and Richard A. Monty (New Jersey: Lawrence Erbarem Association, 1979), p. 17.

> constrained or delineated but not determined by external forces....Persons are sources, not merely loci of activity. Choices make a difference. They involve the setting of goals, the hierarchical structuring of goals, planning, the contemplation and assessment of alternative options and their consequences, and rationally informed judgments. They reflect rational processes that are relatively independent with respect to external factors. Any laws that might underlie choices irreducibly contain variables whose values are cognitive events.[1]

Singer suggests that people want a choice situation because they need to have some control over their environment--some choice in outcome. It is further suggested that insufficient data exists on which a model can be built of why people want control and choice.[2] The basic motivational questions will not be addressed and effects and consequences of choice will be pursued.

Studies conducted between the years 1965 and 1980 were found and investigated. Pigeons, rats, students, and adults were subjects involved in various research projects identified in the literature.

Experiments involving animals such as Cantania's work in 1975 and 1980 with pigeons and the studies conducted with

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[1]Hugh M. Lacey, "Methodology of Cognitive Constructs," Choice and Perceived Control, eds. Perlmuter and Monty, p. 7.

[2]Jerome E. Singer, "Diverse Comments on Diverse Papers About Choice and Perceived Control," Choice and Perceived Control, eds. Perlmuter and Monty, p. 344.

rats by Voss and Homzie in 1970 reported these animals preferring choice conditions to forced or controlled situations.

Cantania's 1975 study showed pigeons to have a preference for freedom and knowledge. He also reported that they preferred free to forced choice, and informative to uninformative stimuli.[1]

Duran-Gonzales replicated Cantania's pigeon experiments using female undergraduates in the psychology department at the University of North Carolina. She concluded that humans preferred free choice to forced compliance and freedom of expression to restricted expressions. She attempted to separate choice as a value independent of the consequences that choosing might lead to.[2]

Voss and Homzie found that rats who were permitted to locomote to a goal box via one of two major arms of a maze, preferred the alternative which provided the opportunity for further choice behavior.[3]

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[1]A. Charles Cantania, "Freedom and Knowledge: An Experimental Analysis of Preference in Pigeons," Journal of the Experimental Analysis of Behavior, 24 (1975), 89-106.

[2]Lilia Irene Duran-Gonzales, "The Value of Choice in Human Behavior," Diss. Univ. North Carolina at Chapel Hill, 1977, abstract.

[3]Stephen C. Voss and M. J. Homzie, "Choice as a Value," Psychological Reports, 26 (1970), 912-14.

Huber, in working with high school students, found that when given a choice of course content they worked more diligently, performed better, and expressed greater freedom than those not given options. The results suggested that giving students decision-making power in learning situations has a favorable effect on performance.[1]

Gordon's work with volunteer undergraduates reported that volunteers who were given a choice between treatments significantly valued the treatment more and reported the treatment to be significantly more effective than did the volunteers who had no choice.[2]

Brigham reports the findings of Farnum, Brigham, and Johnson of regular fifth grade classroom students studied over a year's duration. They found students preferred to choose their own consequences; worked hard to choose their own reinforcers; had a strong reaction when privilege was constrained; and they worked faster when they were able to have a choice. Students were also found to work harder, faster, and reacted more positively when allowed to make choices about instructional procedures. Brigham says,

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[1]Robert Harries Huber, "The Effects of Locus of Control and Choice Options in a Contingency Managed Learning Task," Diss. Florida State Univ., 1970.

[2]Robert M. Gordon, "Effects of Volunteering and Responsibility on the Perceived Value and Effectiveness of a Clinical Treatment," Journal of Consulting and Clinical Psychology, 44 (October 1976), 799-801.

"Choice appears to be the key ingredient, the setting event that leads to these changes in behavior."[1]

Lovitt and Curtiss provided students a choice of either math or reading assignments in daily sessions. They found the students' rate of responding was greater during choice periods than during no choice periods. In this experiment students being allowed to choose was a critical variable.[2]

Monty, Rosenberger, and Perlmuter found that when undergraduate students were given the opportunity to exercise choice it led to better performance than when no such opportunities were provided. They attributed this effect to a motivational component generated by the act of choosing.[3]

Thompson and Wankel conducted their experiment with adult females enrolled in a private health club, recruited for involvement in a new exercise program. The overall attendance to the health activity of the choice group was found to be better than that of the group who had no choice

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[1]Thomas A. Brigham, "Some Effects of Choice on Academic Performance," Choice and Perceived Control, eds. Perlmuter and Monty, p. 140.

[2]Thomas C. Lovitt and Karen A. Curtiss, "Academic Response Rate as a Function of Teacher and Self-Imposed Contingencies," Journal of Applied Behavior Analysis, 2 (1969), 49-53.

[3]Richard A. Monty, Marjorie A. Rosenberger, and Lawrence C. Perlmuter, "Amount and Locus of Choice as Sources of Motivation in Paired-Associate Learning," Journal of Experimental Psychology, 97 (1973), 16-21.

over their activity program. The choice group also indicated a greater interest to continue their activity at the conclusion of the program.[1]

Kalin looked at the influence of choice on the acquisition and retention of learning materials in different modes of instruction. It was discovered that students have a preference for learning in a sensory input channel and a student knows in which sensory channel he learns most efficiently. Allowing a student to learn in the sensory channel in which he thinks he learns most efficiently results in significantly higher learning rates during the first exposure to content.[2] This study contradicts the findings of Giffel and attempted to look at rate of learning not efficiency. It also did not assess attitude toward the experience.

Each of the studies cited, with the exception of Giffel's, indicate subjects want choices and that their performance is increased when they experience or perceive a choice situation. One of the questions raised from these studies is whether subjects who increase their academic

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[1]Carol E. Thompson and Leonard M. Wankel, "The Effects of Perceived Activity Choice upon Frequency of Exercise Behavior," Journal of Applied Social Psychology, 10 (1980), 436-43.

[2]Maurice Francis Kalin, "The Influence of Choice on the Acquisition and Retention of Learning Materials in Different Modes of Instruction," Diss. West Virginia Univ., 1972.

response rate actually learn more?

Further investigation revealed several studies where the amount of information learned was investigated. James identified reading and lecture modes as two ways to receive a phase of basic training. He grouped 503 airmen according to their expressed preference for either the reading or lecture mode of learning. Each group was subdivided and half received instruction in their choice mode and the other half received materials not of their choice. The results indicated no significant difference between any of the groups when tested on the amount of information learned. James concluded that preference for mode of instruction was of little importance, but he did not examine the question of attitude toward the learning experience.[1]

Robert Kail conducted his work with undergraduates and also found no significant differences in learning or performance between students who were forced to do a task and those who freely chose it.[2]

Campbell and Chapman tested fourth and fifth grade students in learner control versus program control of an

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[1]Newton E. James, "Personal Preference for Method as a Factor in Learning," Journal of Educational Psychology, 53, No. 1 (1962), 43-47.

[2]Robert V. Kail, "Freedom of Choice, Task Performance, and Task Persistence," Journal of Experimental Education, 44 (Fall 1975), 32-35.

instructional situation. They found the two groups to be nearly equivalent in performance at the end of the study and also five months later. They did, however, discover that the students in the learner control group were more positive about the subject matter and their learning experience.[1]

Margaret Clifford studied the affective and cognitive effects of option in an educational setting. Her subjects were 811 fifth and sixth graders given choices of study booklets on a two-week vocabulary unit. Her findings are contrary to the findings of others. Her subjects in the choice group actually had lower learning and retention scores than those in the controlled assignment group. Her findings also support the work of Giffel when reporting that the affective measures of liking and perceived learning were not significantly affected by option. Clifford identified the major finding to be student-option-in-means does not necessarily increase cognitive performance and actually hindered it in her experiment.[2]

Clifford's work is the only study located for this

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[1]Vincent Campbell and Madalynne Chapman, "Learner Control vs. Program Control of Instruction," Psychology in the Schools, 4 (1967), 121-29.

[2]Margaret M. Clifford, "Affective and Cognitive Effects of Option in an Educational Setting," Journal of Experimental Education, 43, No. 3 (Spring 1975), 1-5.

review to actually identify a detrimental effect to having choice options. James, Kail, Campbell and Chapman all examined cognitive gains rather than learning rate and they all found no significant gains but also reported no hindrance to learning.

The studies of James and Kail also seem to indicate that learners do prefer a choice in choosing an instructional mode. This evidence of preference is supported by a study done by Asmus and Haugh in which learners were given a choice between two teaching methods for the same course. Out of 160 subjects, eighty-one chose one method and seventy-nine chose the other.[1]

These studies, with the exception of Clifford and Giffel, seem to suggest that learners who have an opportunity to choose will probably be able to progress through an instructional sequence at a faster rate and with more motivation than other learners, but it does not appear that cognitive gains will be effected. Choice of mode by a learner may be of little importance when considering cognitive gains alone, but it may be of great importance when the affective domain is also considered. This study continues to examine the effects on information and attitude when given choice.

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[1]M. Asmus and G. Haugh, "Some Factors Which May be Associated with Student Choice Between Directive and Non-Directive Classes," American Psychologist, 7 (1952), 247.

Choice of alternatives is identified as one important factor having influence on perceived control and resulting behavior. One area of research coming under this broader heading pertains to the effects of choice, or perceived choice, upon tolerance for adverse stimuli.

Stotland and Blumenthal found that when students were allowed to choose the order in which they took important tests the result was less anxiety during the test than when the same tests were in an assigned order.[1] Thompson and Wankel reported on several studies demonstrating that when students perceive that they can select the time, onset, duration, or termination of an adverse stimulus "such as loud noise,[2] electric shock,[3] or repulsive pictures,[4] they

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[1]E. Stotland and A. Blumenthal, "The Reduction of Anxiety as a Result of the Expectation of Making a Choice," Canadian Review of Psychology, 18 (1964), 139-45.

[2]N. Corrah and J. Boffa, "Perceived Control, Self-Observation and Response to Adverse Stimulation," Journal of Personality and Social Psychology, 16 (1970), 1-4; D. C. Glass, J. E. Singer, and L. N. Friedman, "Psychic Cost of Adaptation to an Environmental Stressor," Journal of Personality and Social Psychology, 12 (1969), 200-10.

[3]J. Greer, G. Davison, and R. Gatchel, "Reduction of Stress in Humans Through Non-Veridical Perceived Control of Aversive Stimulation," Journal of Personality and Social Psychology, 16 (1970), 731-38; E. Staub, B. Tursky, and G. E. Schwartz, "Self-Control and Predictability: Their Effects on Reactions to Aversive Stimulation," Journal of Personality and Social Psychology, 18 (1971), 157-62.

[4]J. Greer and E. Maisal, "Evaluating the Effects of the Prediction Control Confound," Journal of Personality and Social Psychology, 23 (1972), 314-19.

will tolerate the adverse situation for a longer period of time."[1]

Dorothy Binder explored the non-intellectual factors of expectations individuals hold for themselves and their concepts of their academic ability. It was concluded that non-intellectual factors show great potential as contributors to the explanation of variations in the grade point average. Together with knowledge of the use of these non-intellectual factors the academic aptitude of the individual might improve the predictive power of those concerned with academic progress.[2]

In an attempt to cross-validate the findings of Binder and others, Jones and Grieneeks studied measures of self-perception as predictors of scholastic achievement. Eight hundred seventy-seven college sophomores demonstrated that at this developmental period, self-perception appears to be the most accurate predictor of academic achievement.[3] This study of Jones and Grieneeks and also the work of Binder would seem to support the ability of persons to understand

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[1]Thompson and Wankel, p. 437.

[2]Dorothy Margaret Binder, "Relationships Among Self-Expectations, Self-Concept, and Academic Achievement," Diss. Univ. of Wisconsin, 1965.

[3]John G. Jones and Laurabeth Grieneeks, "Measures of Self-Perception as Predictors of Scholastic Achievement," The Journal of Educational Research, 63 (January 1970), 201-203.

and predict their own needs relative to their competence level, thus the ability to make a choice of how to learn new information.

Effective Inservice Methods

This third and final literature review section will briefly summarize the findings related to effective inservice methods. In this endeavor it is interesting to note the similarities from author to author in their listed suggestions of the necessary characteristics of effective inservice. As noted by Hutson in his analysis of literature on inservice, he states that the literature is:

> vast and yet surprisingly convergent. There is near unanimous agreement that (a) the current status of inservice practice is deplorable, (b) hard research in inservice is meager, (c) broad-based conceptualizations of inservice are lacking, and (d) the very meaning of the word "inservice" is problematic. But there also exists substantial agreement as to what constitutes several best practices of inservice education.[1]

In his findings of agreement, Hutson divides his "best practices" into the three areas of procedural, substantive, and conceptual domains. They are:

Procedural Domain: (Control, support, delivery)

1. Decision-making should proceed as an authentic collaboration of inservice clients, providers and relevant constituencies.

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[1]Harry M. Hutson, Jr., "Inservice Best Practices: The Learnings of General Education," Journal of Research and Development in Education, 14, No. 2 (1981), 1.

2. The incentives for participating in inservice programs should emphasize intrinsic professional rewards.
3. Inservice programs should be explicitly supported at the outset by district and building administrators.
4. Outside agencies/consultants may be helpful in supportive roles. A corollary is that outside agencies/consultants should offer neither too much nor too little help.
5. The implementation strategy should include continual professional growth activities and the local development of materials within a framework of collaborative planning by participants.
6. The design of inservice programs should be complex and ambitious. A corollary is that inservice goals should be clear and specific.
7. Inservice programs should be planned in response to assessed needs. A corollary is that interests and strengths of participants should also be assessed.
8. Inservice trainers should be competent. The corollary is that each person is often his own most competent trainer.
9. The school site should be the locus of inservice activities.
10. The evaluation of inservice should be a collaborative venture whose primary purpose is to assist with planning and implementing programs.

Substantive Domain: (Content, process)

1. The content of inservice should be derived from assessed needs.
2. Inservice content should be directed toward changing teaching, not student behavior.
3. The process of inservice education should model good teaching.

Conceptual Domain:

1. Inservice education should follow a developmental, not a deficit model.
2. Inservice should be an integrated part of the total school program.[1]

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[1]Hutson, pp. 1-9.

Hutson sets the stage for this section. We will first examine large reviews undertaken by leading authorities in the field of inservice education such as Bruce Joyce and Beverly Showers two-year study examining more than 200 research studies on the ability of teachers to acquire teaching skills and strategies. From their study they identified three messages they felt the research sent:

> First that nearly all teachers can acquire new skills that "fine tune" their competence. They can also learn a considerable repertoire of teaching strategies that are new to them. Secondly, in order to improve their skills and learn new approaches to teaching, teachers need certain conditions--conditions that are not common in most inservice settings even when teachers participate in the governance of those settings. The third message is that the research base reveals what conditions help teachers to learn. This information can be used to design staff development activities for classroom personnel.[1]

The conditions referred to are theory, modeling or demonstration, practice, feedback, and coaching for application.

Joyce, Howey, and Yarger in 1975 analyzed interviews with over 1,000 educational professionals, over 200 state and national policy makers; studied over 2,000 items of literature, and sixteen position papers by expert observers and special position representatives.

They report inservice teacher education (ISTE) to be a

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[1]Bruce Joyce and Beverly Showers, "Improving Inservice Training: The Messages of Research," Educational Leadership, 37, No. 5 (February 1980), 379.

vast and complex organization and the problems to be largely structural. They believe four major dimensions in the form of systems link together to form the operating structure. These four structures and their functions are:

1. The Governance System

   Decision-making. Legitimize and govern activities.

2. The Substantive System

   Content and process. What is learned and how.

3. The Delivery System

   Incentives, interfaces between trainers, and training, and staff motivation, access, relevance.

4. The Model System

   Forms in which ISTE is delivered.

They believe these systems to be interlocking and must be considered in total as a system.[1]

Another massive study was undertaken by Rand in 1973 under the direction of the United States Office of Education (OE) to study the results of ESEA Title III, "The Right to Read" program, the Vocational Education (Part D) program, and the ESEA Title VII Bilingual Projects. The Rand research team, Paul Berman, Milbrey McLaughlin, and John Pincus, divided their research into two phases over a four-year period. They first surveyed 293 projects and conducted twenty-nine field

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[1]Joyce, Howey, and Yarger, pp. 5-6.

studies to explore the processes by which school districts set up and carried out their projects. Next they surveyed 100 Title III projects that had continued to operate one to two years after federal monies had run out and they identified factors leading to success and failure by comparing data from both phases of the research.

Rand's study of federal programs supporting educational change looked at the process of change and factors that support teacher growth. The implications were many; the most significant according to McLaughlin and Marsh is the view taken of staff development. "The study moves away from a traditional view of staff development as a concern about the governance, financing, staffing, delivery, and reward structures...or as a problem of technology transfer."[1] Instead emphasis is placed on learning for professionals as part of ongoing program building in an organizational context.

> The Rand study, therefore, suggests that effective staff development activities should incorporate five general assumptions about professional learning:
>
> 1. Teachers possess important clinical expertise.
> 2. Professional learning is an adaptive and heuristic process.
> 3. Professional learning is a long-term, non-linear process.

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[1]Milbrey Wallin McLaughlin and David D. Marsh, "Staff Development and School Change," Teachers College Record, 80, No. 1 (September 1978), 87.

4. Professional learning must be tied to school-site program-building efforts.
5. Professional learning is critically influenced by organizational factors in the school site and in the district.[1]

The implications for educators in staff development are numerous. It says teachers should have long-term responsibility, collaborative planning and implementation of significant change. It also identifies "more experienced teachers as possibly needing a different approach to their professional growth."[2] It was found that some experienced teachers continue their personal and professional growth; however, in general teachers with many years of experience find change in their own teaching behavior difficult. McLaughlin and Marsh also report Lortie's findings that many older teachers had shifted their energies to family or other outside interests from weariness or frustration.[3] It is suggested that a more personal approach be taken to professional growth, emphasizing new cognitive frameworks for looking at teaching practice and teacher effectiveness.

> The apparent mutability of a teacher's sense of efficacy suggested by the Rand study indicates that experienced teachers need not peak out, but can continue to learn and grow.[4]

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[1]McLaughlin and Marsh, p. 91.

[2]McLaughlin and Marsh, p. 91.

[3]Dan Lortie, School Teacher (Chicago: University of Chicago Press, 1975), pp. 100-101.

[4]McLaughlin and Marsh, p. 91.

Lawrence examined ninety-seven studies of the continuing education of employed teachers. Summarizing his findings Lawrence wrote:

> The inservice programs that have the best chance of being effective are those that involve teachers in planning and managing their own professional development activities, pursuing personal and collective objectives, sharing, applying new learnings and receiving feedback.[1]

In addition to these large scale efforts to evaluate the effectiveness of staff development, this literature review examined the proliferation of articles generated on the subject. Redundancy is evident but this consistency should gain attention to suggestions being offered in the literature available for dissemination while observing there is a dearth of hard data and an abundance of opinions available in the literature.

Arends, Hersh and Turner suggest that we need to reject some of the assumptions about current inservice programs and pay attention to teachers as mature professionals. They outline the following suggestions to improve the effectiveness of inservice education. First, provide not only new skills and understandings but also help to find ways to integrate these skills and understandings. Help should be provided teachers toward becoming self-actualized as

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[1]Gordon Lawrence, Patterns of Effective In-Service Education: A State of the Art Summary of Research on Materials and Procedures for Changing Teacher Behavior in In-Service Education (ERIC ED 176 424), p. 20.

professionals and human beings. Secondly, assistance is needed to integrate work, education, and leisure time. Third, avoid criticism and instill collegiality and finally avoid the concept of a program or method being "teacher-proof." It is important to view the development of educators as persons-in-relation. Take into account not only their knowledge but their intentions, competence, beliefs, and actions. They further suggest new delivery models, human interaction, and new images and organizational arrangements.[1]

Howey and Joyce provide their readers with opportunity for analysis of the state of inservice education in their writing on a data base for future directions in inservice education. They outline problem areas that appear to distract from the variety and quality of experience desired by and for teachers. They suggest the solution lies in a more realistic conceptualization of teacher roles which must begin in preservice and structural-organization changes in schools which extend beyond condescendingly asking an individual what he needs.

They state that expectations attached to the teaching role and deteriorating conditions in schools appear increasingly to dampen the spirit of inquisitiveness and playfulness; that rarely is inservice looked upon as designed to help one

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[1]Arends, Hersh, and Turner, pp. 196-205.

be:

> very very good at something that is very very hard to do but more often is more remediative; and if the teacher's status and individual sense of dignity is questionable...just what changes are in order.[1]

Hunt describes inservice training as persons-in-relation. He says "responsiveness has always been the heart of the teaching-learning process."[2] In reviewing the findings of McLaughlin in the Rand study and others he states that these studies draw attention to the failure of large scale innovative programs: "they ignored the teacher, the most critical feature of any program."[3]

Ingersoll joins hoards of others in admonishing providers of inservice to consider teacher needs when planning inservice. Decisions should not be based upon convenience, convention, current trends, or expediency but should be based on teacher needs. There are motivational reasons for including teachers in the planning, training, development, and materials selection.[4]

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[1]Kenneth Howey and Bruce Joyce, "A Data Base for Future Directions in Inservice Education," Theory into Practice, 17, No. 3 (June 1978), 206-11.

[2]David E. Hunt, "Inservice Training as Persons-in-Relation," Theory into Practice, 17, No. 3 (June 1978), 239.

[3]Hunt, p. 240.

[4]Gary M. Ingersoll, "Assessing Inservice Training Needs Through Teacher Responses," Journal of Teacher Education, 27, No. 2 (Summer 1976), 173.

Johnson and Sloat conducted a research project with elementary teachers taking a university extension course. By the end of the course teachers had acquired the behavior of interest but on follow-up they were not performing them. It is suggested that teacher training be individualized as much as possible for when examined on a one-to-one basis it was found that some procedures had affected certain teachers more than others and some teachers did maintain behavior change during follow-up. "Ideally trainers would be able to specify the most effective training procedures for a given teacher and a given behavior."[1]

Gene Hall and Susan Loucks have developed an empirically tested inservice strategy, illustrating a developmental approach. They have identified seven basic levels of awareness and eight levels of use of the new learning. This developmental model of teacher concerns is used to design preservice programs and inservice applications. The stages of concern are related with Maslow's hierarchy of needs, as early concerns are security needs and later concerns are task oriented and self-actualizing needs. Though little research has been done on factors that influence transitions through the stages, it is felt that stages advance with increasing professional preparation, teaching experience,

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[1]Jerry L. Johnson and Kim C. Sloat, "Teacher Training Effects: Real or Illusory," Psychology in the Schools, January 1980, p. 114.

special treatment and increasing expertise.[1]

It is feasible, however, to consider Hunt's conceptual systems model based on Piaget's social and academic structures to determine the amount of external structure a person needs to function effectively.

> For example in the lowest CL (Conceptual Level) group, students are at an immature, unsocialized stage, they are characterized as being concrete, impulsive, and easily frustrated. Middle CL students are dependent on authority, concerned with rules, and categorical in their thinking. The highest CL students are independent, have more alternatives available to them, and are inquiring, self-assertive and questioning.[2]

Teachers at varying CL levels could benefit from learning activities planned to meet their structural needs.

Peterson and Hammer describe a project using Hunt's model. Students were grouped by their need for structure, conceptual level not ability level. Teachers observed that teaching to this common need seemed to improve student's academic achievement, attitudes toward learning, and socialization skills. Their recommendations for planning effective individualized staff development are:

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[1]Gene E. Hall and Susan F. Loucks, "Program Definition and Adaptation: Implications for Inservice," Journal of Research and Development in Education, 14, No. 2 (1981), 47-57.

[2]Betty Dillon Peterson and Christy Hammer, "Applications of Adult Learning Theory to Staff Development," The Journal of Staff Development, 1, No. 2 (October 1980), 80.

A. Identify expected outcomes

B. Pre-assess needs and interests

C. Give options of delivery systems

1. Highly structured group activity
   a. Leader directed
   b. Materials arranged

2. Brief outline of less structured plan
   a. Group discussion
   b. Programmed materials
   c. Learning centers

3. Independent activity.[1]

Leiter and Cooper explain how teacher unionists view inservice education. They believe "teachers learn best from teachers."[2] Basic conditions needed for successful inservice education is based on the needs of teachers and they

> are not always in a position to clearly define their needs...where environment is overladen with the deficiency approach where there is an absence of incentives, and where candor might be misconstrued.[3]

Inservice must be a part of the total school system, site centered.

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[1]Peterson and Hammer, pp. 84-85.

[2]Maurice Leiter and Myrna Cooper, "How Teacher Unionists View In-Service Education," Teachers College Record, 80, No. 1 (September 1978), 117-25.

[3]Leiter and Cooper, p. 122.

McLagan reports that when favorable individual differences and behavior factors exist it becomes less important to stress goal setting, environmental change, or reinforcement planning. On the other hand,

> the more complex the task, the more varied the learner group, and the more diverse the transfer environments the more important it becomes for individual learners to be responsible for customizing their own behavior change programs.[1]

The learner is the only one who has relevant individual differences and environment information.

> Educators simply do not have and usually can't reasonably get enough information about how such factors as individual self-esteem, past successes, reinforcement, idiosyncracies, perceived task importance, current environment supportiveness or hostility, to be able to customize a... program for each...participant, yet all of these factors should be considered for each individual.[2]

Judy-arin Krupp conducted a study of twenty teachers, through oral history interviews, regarding their life developmental changes, and their perceptions about the effects of those changes on their behaviors and needs related to in-service education.

She shares two findings: First that

> A single underlying lifelong process of identity... is revealed for all participants. This is a process of finding out characteristics of the self

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[1]Patricia A. McLagan, Adult Education, Adult Learning (ERIC ED 110 851).

[2]McLagan, pp. 1-39.

> and the relation of that self to the world. It is also a process of living out the self so revealed.[1]

The world also "looks different to the same person at different ages."[2]

The second essence is "That most teachers perceive inservice needs and behavior to have been affected by life developmental changes."[3]

Krupp states the importance for the inservice educator to know the teacher and be concerned with a holistic view.[4] She also suggests choice be given teachers for delivery and types of programs.

Summary

This literature review has identified several important implications for school districts to consider when planning inservice for their staffs.

Of major importance is the recognition of adulthood being a developmental period just as is childhood and adolescence. The supporting evidence of the existence of developmental ages and stages demonstrates that adults are continuing their growth and development through transition

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[1]Krupp, p. 590.

[2]Krupp, p. 598.

[3]Krupp, p. 596.

[4]Krupp, p. 646.

points and crisis as they interact with their environment. They are shown to proceed through predictable sequential stages which depend on heredity, environment, and personal integration. The adult is thus viewed as a growing, changing complex organism.

It is this concept of adulthood that providers of inservice need to be alerted to. It is important to recognize these age/stage related tasks and issues and to understand that people's perceptions of their environment are a reflection of their own stage of development. Humans conceptualize new learning and change differently at different stages of development and they are changing emotionally, morally, and cognitively as they experience transitions and stages in their lives. How can a school system acquire current and complete information needed to individualize the learning environment for each participant? This information seems to indicate that learners are the best source for knowing their own individual differences and background information.

Next the data provided by Knowles supports the necessity of viewing the adult learner differently than one views a child. By the very nature of their "adultness" adults expect to be treated as self-directing and with respect. Their experiences, view of self, and time perspective should also challenge inservice providers to recognize the individual needs of each learner.

The reported findings on adult behavior and choice further reinforced the belief in the adult learner as the decision maker for his own learning.

Binder, Jones and Grienecks reported that persons can understand and predict their own needs relative to their competence level. The literature acknowledged that adults can learn; their learning effectiveness is dependent on their ability, approach, need for skill, and previous experience; and they want control over their environment through choice.

All the studies examining cognitive gains, with the exception of Clifford and Giffel, indicated that learners who can exercise choice will probably be able to make faster progress and have more motivation but they will not experience a greater gain in knowledge. This study continues the investigation into the effect of choice in inservice on knowledge and attitude.

Reviewing effective inservice identified similarities in the suggestions to improve inservice education. The Rand report provided the basis for general agreement that teachers should have long term responsibility and should collaborate in the planning and implementing process.

A very major finding, related to this study, is the notion that a more personal approach is needed in inservice education. It is suggested that perhaps different needs exist for different teachers as identified by Hunt et al.

This finding is supported by Arends, Hersh and Turner that inservice providers need to pay attention to teachers as mature professionals. Howry and Joyce also support structural reorganization changes that go beyond asking an individual what he needs. Ingersoll, Hunt, McLaughton--all direct inservice providers to consider the teacher.

McLagan told us the more complex the task, the more varied the learner group, and the more diverse the transfer environments the more it is important for individuals to be responsible for customizing their own behavior change programs.

Hunt described differing conceptual levels based on Piaget's social and academic structures. A person's conceptual level determines the amount of external structure he needs to function effectively. Peterson and Hammer, using Hunt's model, observed that teaching to this common need improved the student's academic achievement, attitudes toward learning, and socializing skills. They recommend giving options of delivery systems.

This study attempts to further examine the effects of choice in inservice on knowledge and attitude. The options for learning in a specific mode were tailored with Hunt's model in mind.

Teachers in the control (assigned) and experimental (choice) groups were provided with four modes for learning. Mode one was a highly structured group activity that was

leader directed, two was less structured with discussion the format, three was an independent, learner control activity, and four was lecture in one session and discussion as a follow-up.

It is reasoned that providing teachers a choice situation would address many of the factors identified in this literature review.

First the adult would be the decision maker and responsible for evaluating his own needs relative to his perception of his individual differences and environment. The school district would be supporting the concept of the adult being capable of self-direction, would provide for individual needs, and would be providing a personal approach while also fulfilling district goals and objectives.

Providing the option of choice in a learning situation to staff could be a very important decision for a school district to make. Would learning be improved and attitude more positive if this option of choice were provided?

School districts have many occasions when it is necessary to help their teachers learn new skills and information. The traditional approaches seem to lack support from both administrators and teachers. Perhaps the availability of choice could help school districts meet their needs while also treating their staffs with dignity and respect.

CHAPTER THREE

Methodology

The purpose of this study was to test the effects on learning and attitude when teachers are given a choice of how they will learn new information.

Sampling

All of the 206 second through sixth grade teachers in nineteen elementary schools were the target population for the study. Every teacher of spelling in all schools responsible for implementing the new Des Moines spelling program was included in the study. The teachers and schools were representative of the Des Moines staff and buildings.

Procedure

Of the second through sixth grade teachers in the nineteen schools who were inserviced on the Des Moines spelling plan, eighty were randomly assigned to a control group using the table of random numbers. The eighty teachers randomly assigned to the control group were then randomly assigned, again using the table of random numbers, to one of four treatment groups, described in the following paragraph. The number eighty was arrived at to ensure each

treatment group contained twenty participants. The remaining 126 teachers comprised the experimental group and were given a choice of which of the four treatments they preferred. A larger number of subjects were identified for the experimental group as it was reasoned that having more subjects experiencing the choice condition would increase the possibility of maintaining all four treatments. The number of treatment modes used in the study were determined by the choices of the experimental group and in spite of the precaution taken, it became necessary to eliminate Treatment Group 4 from the study due to an insufficient number of teachers choosing this option (three teachers).

The four treatment groups were:

Treatment Group 1

Pre-test (knowledge of Des Moines Spelling Plan)

Given packet of information (Appendix D)

Attended a one-hour presentation

No follow-up included

Post-test (Knowledge/Attitude Questionnaire)

Treatment Group 2

Pre-test (Knowledge of Des Moines Spelling Plan)

Given packet of information

No presentation provided

Follow-up discussion held one week after receiving the packet of information

Post-test (Knowledge/Attitude Questionnaire)

Treatment Group 3

Pre-test (Knowledge of Des Moines Spelling Plan)

Given packet of information

No presentation provided

No follow-up discussion held

This group was responsible to learn about the Des Moines Spelling Plan on their own from studying the contents of the packet they had been provided.

Post-test (Knowledge/Attitude Questionnaire)

Treatment Group 4 (No analysis)

Pre-test (Knowledge of Des Moines Spelling Plan)

Given packet of information

Attended one-hour presentation

Follow-up discussion held one week after presentation

Post-test (Knowledge/Attitude Questionnaire)

The original population numbered 206 teachers. Sixty-four subjects were dropped from the study for multiple reasons as shown in Appendix A. The contamination of the data obtained, or the lack of data, necessitated the elimination of these subjects. One hundred forty-two teachers, fifty-three in the control group and eighty-nine in the experimental group remained in the study by following the established procedures. All participants were post-tested on their attitudes about the Des Moines Spelling Plan in-service. They completed pre- and post-test information about their knowledge concerning spelling research and the methods of teaching the Des Moines Spelling Plan.

The specific procedures employed to assure test reliability were as follows:

Control Group (assigned)

1. Total number for control group selected by random assignment.
2. Twenty subjects assigned to each of the four delivery treatment modes by random selection.
3. All control group participants notified of treatment group assignment and procedures to be followed. The procedures identified included dates for inservice and pre-test information and dates.
4. Pre-tests administered to all participants on the same date. The building principal was responsible for monitoring, collecting and returning the pre-tests.
5. Packets of information given to each participant at the time of the pre-test.
6. The subjects participated in assigned treatment mode.
7. The post-test administered on the same date to all subjects in the control group again by the building principal.
8. The building principal responsible for monitoring, collecting, and returning the post-test.

Experimental Group (Choice)

1. Teachers were sent a letter explaining the four treatment groups requesting the subject to choose a delivery treatment mode.
2. All subjects were assigned their first choice except the three who requested treatment group 4. These three teachers were given a second choice and they were excluded from the sample.
3. Each subject received directions and dates for their chosen group.
4. All pre-tests were again administered on the same day. The building principal was responsible for monitoring, collecting, and returning the pre-tests.
5. Packets of information were given to each participant at the time of the pre-test.
6. The subjects participated in their chosen delivery treatment mode.
7. The post-test was administered on the same date to all subjects in the experimental group, by the building principal.
8. The building principal was responsible for monitoring, collecting, and returning the post-test.

Instruments

1. Three attitude questions (Appendix B).

2. Des Moines Spelling Plan Knowledge Test (Appendix C).

A literature review was conducted to determine the most appropriate method to measure attitude and knowledge. Three questions were developed to determine teacher attitude, field tested following a district inservice day, and revised. The attitude survey questions were then administered to twenty-five teachers to determine if there was a difference in the response of the test group to the three questions. A resulting ratio of .317012 supported retaining the null hypothesis of no difference existing in their responses to the three questions. The three attitude questions were accepted. A knowledge test to be used pre- and post-test to measure knowledge on the Des Moines Spelling Plan was developed and critiqued by a jury of twenty-five teachers and six experienced researchers. The knowledge test was revised and administered to ten teachers currently using the Des Moines Spelling Plan. They completed the test and critiqued the instrument. Final revision was then completed and both instruments approved for use.

Review of the Des Moines Spelling Plan

The inservice program to be used for this study is the Des Moines Spelling Plan.

In the past, teachers in the Des Moines School System could choose from among three spelling programs. Starting

with the 1982-83 school year all second through sixth grade teachers were to be required to teach the Des Moines Spelling Plan. Approximately 200 teachers in nineteen elementary buildings were to receive inservice training to enable them to implement the Des Moines Spelling Plan. The schools would then use this plan to facilitate spelling coordination because of student movement between schools and to help the district improve its spelling program by providing a concentrated spelling/writing and language program.

The Des Moines Spelling Plan presents words in three lists for each grade level two through six. The words are taken from the Iowa Spelling Scale developed by Dr. Harry Greene through the Bureau of Educational Research and Service, State University of Iowa. It provides an extensive and carefully screened list of words found to be used widely in written communication, contains reliable information on the average or typical difficulty in each grade, and furnishes information for construction and validation of informal or standardized spelling tests.

Students are placed in a spelling group as a result of a leveling test given the first week of each semester. Once students are assigned to an easy, average, or accelerated group, the teacher begins instruction.

Students are given a pre-test each Monday without having previously seen the words and then a post-test on

Friday. On Tuesday, Wednesday and Thursday, the students are directed to use all their spelling words in writing activities. On Mondays, students correct their own tests under the direction of the teacher. Each student has a spelling folder which holds all test papers and an individual progress chart. The chart is marked on both Monday and Friday by the student. After the test is corrected on Monday, students mark a bar graph to show the words they knew without studying. On Friday, the student marks the chart in a different color to show what she has learned by studying. There is also a teacher record chart which can be used to chart group spelling scores. The time allotment for this program is 60-75 minutes a week.

The program emphasis is on students correcting their own spelling test under the direction of the teacher, using the test-study method of learning words, and correlating spelling with writing through specifically designed activities. Students may change from one group to another once during a four-week period if they spell all words correctly for three consecutive weeks. Maintenance tests are given every four weeks for student review.

Students' records and grades are recorded 6(E)6(Av) 6(Acc). The number, in this case six, represents the grade (sixth). The abbreviations stand for easy (E), average (Av) or accelerated (Acc) lists. Fifty percent of the grade is determined by spelling tests and 50 percent on the usage of

the words in the writing activities. When grades in spelling are figured for grade cards and conferences, the spelling tests and writing assignments must be considered together for the spelling grade. Because these words are in the scale for each grade level, students on any list may earn an A if all activities are successfully completed.

Data Analysis

A 2 x 3 fixed effects factorial Analysis of Variance (ANOVA) was employed to analyze the results. The two main factors were Inservice Training with three levels (Treatments 1, 2, and 3) and Type with two levels (assigned and choice).

CHAPTER FOUR

Presentation of Data Analysis

Sample Selection and Instrumentation

The purpose of this study was to investigate the effects of providing classroom teachers a choice of how they receive inservice training on both their attitude toward the inservice program and the knowledge they gained from the inservice. The participants comprised 206 second through sixth grade teachers, from nineteen elementary schools in the Des Moines Independent Community School District, who had no previous knowledge, training or experience with the Des Moines Spelling Plan, the subject content of the inservice for this research.

Eighty of the 206 teachers were randomly selected and assigned to one of four inservice training treatment groups comprising twenty individuals per group. These groups served as the control for the study. The remaining 126 teachers became the experimental group and were provided an opportunity to choose from among the four treatments, the inservice process they preferred.

The number eighty was chosen for the control group to assure assigning twenty teachers to each of the four treatment modes. The larger number, 126 for the choice group, was

decided upon for it was reasoned that the larger number in the experimental group would increase the possibility of retaining all four inservice training strategies. This, however, did not prove to be the case as training mode four was eventually dropped from further analysis due to an insufficient number of participants choosing this strategy. (See Appendix A for a detailing of the participants by strategy.)

Four training strategies were planned for the study and each treatment group received the same carefully designed packet of information to be learned about the Des Moines Spelling Plan. Three of the four treatment modes required a presentation and/or discussion leader. All training responsibility was assumed by a Des Moines elementary consultant.

Training Modes

Treatment Group 1

Pre-test (knowledge of Des Moines Spelling Plan)

Given packet of information

Attended a one-hour presentation

No follow-up included

Post-test (Knowledge/Attitude Questionnaire)

Treatment Group 2

Pre-test (knowledge of Des Moines Spelling Plan)

Given packet of information

No presentation provided

Follow-up discussion held one week after receiving the packet of information

Post-test (Knowledge/Attitude Questionnaire)

Treatment Group 3

Pre-test (knowledge of Des Moines Spelling Plan)

Given packet of information

No presentation provided

No follow-up discussion held

This group was responsible to learn about the Des Moines Spelling Plan on their own from studying the contents of the packet they had been provided.

Post-test (Knowledge/Attitude Questionnaire)

Treatment Group 4 (No analysis)

Pre-test (knowledge of Des Moines Spelling Plan)

Given packet of information

Attended one-hour presentation

Follow-up discussion held one week after presentation

Post-test (Knowledge/Attitude Questionnaire)

Null Hypotheses

1. Teachers who are allowed to choose an inservice treatment strategy do not have a more positive attitude about the inservice strategy than teachers who were assigned the same strategy.

2. Teachers who are allowed to choose an inservice treatment strategy do not have a more positive attitude that the strategy would be effective for other grade level teachers than teachers who were assigned the strategy.

3. Teachers who are allowed to choose an inservice treatment do not have a more positive attitude that the strategy would be a good method to use for other inservice days than teachers who were assigned the strategy.

4. Teachers who are allowed to choose an inservice treatment strategy do not receive higher gain scores on a knowledge test than those who were assigned to a strategy.

5. Choice and treatment are not independent.

Two instruments were specifically designed to collect information regarding attitude toward the program and the measure of cognitive growth as a result of training. The attitude questionnaire consisted of three attitude questions administered to both the control and experimental groups at the end of the program to measure the participant's reaction (attitude) to the training mode they had been assigned to or elected to participate in. The second instrument was a knowledge test of the Des Moines Spelling Plan administered on a pre-post basis to determine cognitive growth relative to inservice mode across all treatment groups.

Three attitude questions were developed to determine how inservice participants felt about their training experience. The three questions were then administered to twenty-five elementary classroom teachers attending three differing inservice sessions on a district inservice day. The knowledge test was developed and then critiqued, also with the assistance of classroom teachers. Ten teachers currently using the Des Moines Spelling Plan were chosen from

three elementary schools not to be included in the study. The suggested revisions were made and both instruments were included for use in this study. The attitude instrument can be found in Appendix B and the knowledge instrument in Appendix C.

Experimental Design

A 2 x 3 fixed effects factorial ANOVA was employed to analyze the results. The two main factors were Inservice Training with three levels (Treatments 1, 2, and 3) and Type with two levels (assigned and choice).

Of the 206 teachers participating in the study usable data was obtained from 142. Appendix A provides a breakdown of this information by groups from both the assigned and choice types.

Results

The following data analysis was completed on 142 participants in the study, eighty-nine from the choice group and fifty-three from the assigned.

Attitude

Descriptive statistics are presented in Table 1 for the inservice training groups by Type for each of the three attitude questions. Overall, for each inservice training strategy, the choice group showed a more positive attitude toward the following questions:

1. What is your attitude toward the Des Moines Spelling Plan inservice you have just attended?
2. Would this Des Moines Spelling Plan inservice be effective for other grade level teachers?
3. As you reflect on this inservice would it be a good method to use for other inservice days?

Table 1

Descriptive Statistics by Inservice Training Group and Type for Attitude Questions

		Attitude 1 Toward Inservice Attended		Attitude 2 Effective for Grade Level Teachers		Attitude 3 Good for Other Inservice Days	
	N	Mean	S.D.	Mean	S.D.	Mean	S.D.
Group 1							
Choice	27	4.07	0.78	4.04	0.76	3.85	0.77
Assigned	18	3.39	0.92	3.44	0.78	3.28	1.02
Group 2							
Choice	32	3.72	0.81	3.50	0.80	3.78	0.94
Assigned	16	3.00	0.89	3.06	0.85	3.19	0.91
Group 3							
Choice	30	3.97	0.93	3.97	0.96	3.83	1.02
Assigned	19	3.63	0.68	3.74	0.81	3.63	1.07

Results of the three 2 x 3 factorial ANOVAS appear in Tables 2, 3 and 4. In each case no significant interaction for Group by Type resulted, therefore Null Hypothesis 5 is rejected. All three analyses reveal that the group permitted to choose among the treatments resulted in a more

positive attitude about:

1. The Des Moines Spelling Plan inservice they had just received. Hypothesis 1 was rejected.
2. The inservice they had received on the Des Moines Spelling Plan being effective for other grade level teachers. Hypothesis 2 was rejected.
3. The inservice they had received being a good method for other inservice days. Hypothesis 3 was rejected.

Table 2

2 x 3 ANOVA: Analysis of Instructional Groups and Type on Attitude 1

Source of Variation	DF	S.S.	M.S.	F-Test
Group	2	4.897	2.448	$p<.05$
Type	1	11.106	11.106	$p<.05$
Group X Type	2	1.021	.510	NS
Residual	136	95.986	.706	

Table 3

2 x 3 ANOVA: Analysis of Instructional Groups and Type on Attitude 2

Source of Variation	DF	S.S.	M.S.	F-Test
Group	2	8.007	4.003	$p<.05$
Type	1	5.829	5.829	$p<.05$
Group x Type	2	0.745	0.372	NS
Residual	136	94.996	0.698	

Table 4

2 x 3 ANOVA: Analysis of Instructional Groups and Type on Attitude 3

Source of Variation	DF	S.S.	M.S.	F-Test
Group	2	1.440	0.720	NS
Type	1	6.888	6.888	$p<.05$
Group x Type	2	1.104	0.552	NS
Residual	136	123.512	0.908	

Results for attitude questions 1 and 2 revealed significant differences among the three training programs. In order to discover where the differences existed among the groups for attitude 1 and 2 the Least Significant Differences (LSD) test was selected as the a posteriori test,

as shown in Tables 5 and 6. For Attitude 1 the LSD revealed Groups 2 and 3 to be different at the .05 level and for Attitude 2 the LSD showed Group 2 to be different at the .05 level from Groups 1 and 3. Results for main effect by Type (assigned and choice) were significant for each of the three questions favoring the choice group. For Attitude 1 the mean response for the choice group was 3.9, and for the assigned, 3.4. For Attitude 2 the mean response for the choice group was 3.8, and for the assigned, 3.4. For Attitude 3 the mean response for the choice group was 3.815, and for the assigned, 3.4.

Table 5

Multiple Range Tests for Homogeneity of Variance
Attitude 1

LSD			GRP 2	GRP 1	GRP 3
Mean					
3.4792	Group 2				
3.8000	Group 1				
3.8367	Group 3	----------	X		

Table 6

Multiple Range Tests for Homogeneity of Variance
Attitude 2

LSD			GRP 2	GRP 1	GRP 3
Mean					
3.3542	Group 2				
3.8000	Group 1	----------	X		
3.8776	Group 3	----------	X		

Knowledge

Table 7 presents the pre- and post-test means, standard deviations, and t-tests for the inservice training groups by Type for knowledge on the pre- and post-tests. As reported on this table:

1. Each of the six groups increased their knowledge of the Des Moines Spelling Plan.
2. There are no differences within the groups on the pre-test means.
3. Across the three groups there is a difference in the pre-test means.

This table reports Group 1 to have the lowest pre-test means and Group 3 to have the highest pre-test means. These three groups were each randomly chosen as described in the section on sample selection and no subject had had previous exposure to the Des Moines Spelling Plan. All subjects

received the pre-test at exactly the same time. Upon examination of the subjects lost, where pre-test data was available, there was no indication that these subjects had higher or lower pre-test scores than others within their group. It is reasoned, therefore, that this phenomenon was due to random occurrence.

Table 7

t-Test Results Comparing Pre-Test and Post-Test Means (Knowledge Gained) by Inservice Training and Type

		Pre		Post		
	N	Mean	S.D.	Mean	S.D.	t-Test
Group 1						
Choice (1)	27	12.7407	2.9299	21.0741	2.8946	12.54*
Assigned (2)	18	12.8333	3.2404	20.7222	2.0236	9.62*
Group 2						
Choice (1)	32	14.0626	4.2346	21.1250	4.2937	8.73*
Assigned (2)	16	14.6875	3.6096	23.5625	1.6721	9.19*
Group 3						
Choice (1)	30	15.4333	4.5915	21.6667	4.5964	6.52*
Assigned (2)	19	15.6316	4.6213	21.7895	2.9736	5.69*
Total	142					

*Significant pre-post gain, $p<.01$.

This information of existing differences necessitated further data analysis. It was decided to use Analysis of Covariance (ANCOVA) to control for the differences on the pre-test score across the three groups. Table 8 reports the Analysis of Covariance. The reported results show:

1. The covariate (pre-test) was different across the three groups.
2. When the main effect (group and type) were adjusted through the analysis of covariance, no differences either by type or group were found to exist on the post-test for knowledge.

Table 8

ANCOVA of Instructional Groups on Knowledge

Source of Variation	DF	S.S.	M.S.	F-Test
Pre-test Covariates	1	177.801	177.801	p<.01
Group	2	27.109	13.555	NS
Type	1	13.873	13.873	NS
Group x Type	2	42.914	21.457	NS
Residual	135	1494.924	11.074	

These data suggest that all three strategies, as well as allowing people choosing within strategies, did not make a difference relative to overall knowledge gained.

CHAPTER FIVE

Discussion, Conclusions, and Recommendations

Problem

School districts have necessary program and curriculum changes to implement within their systems. Staff members have unique individual differences and learner needs. The purpose of this study was to examine the effects of teacher choice of an instructional treatment strategy on the teacher's attitude toward the instructional experience and the knowledge gained. The following null hypotheses were tested:

1. Teachers who are allowed to choose an inservice treatment strategy do not have a more positive attitude about the inservice strategy than teachers who were assigned to the same strategy.
2. Teachers who are allowed to choose an inservice treatment strategy do not have a more positive attitude that the strategy would be effective for other grade level teachers than teachers who were assigned the strategies.
3. Teachers who are allowed to choose an inservice treatment strategy do not have a more positive attitude that the strategy would be a good method to

use for other inservice days than teachers who were assigned the strategy.

4. Teachers who are allowed to choose an inservice treatment strategy do not score higher on a knowledge test than those who were assigned to the strategy.
5. Choice and treatment are not independent.

Discussion and Conclusion

This study found that when teachers are given choice options of inservice treatment strategies, they did not learn more than their counterparts who were assigned the same treatment strategy but their attitude was more positive about the experience. Statistical tests for Null Hypothesis 1 indicated that it must be rejected. Teachers in the choice group did show a more positive attitude about the inservice strategy they had chosen than did the teachers who were assigned to the same strategy.

Null Hypothesis 2 was also rejected. Teachers in the choice group again showed a more positive attitude about the strategy they chose being effective for other grade level teachers than the teachers who were assigned the same strategy.

Null Hypothesis 3 was likewise rejected. Teachers in the choice group showed a more positive attitude about the strategy they chose being a good method to use for other

inservice days than did teachers who were assigned to the same strategy.

These findings for all three attitude questions support the conclusions drawn from the literature review. These adults did want to experience choice and have control over their own environment. This study examined choice as one way of treating teacher inservice, on the assumption that teachers were capable of self-direction. The positive attitude of these subjects toward choosing a treatment delivery system seems to support the Rand report analysis that "effective staff development depends much more on the district's point of view about principals and teachers as learners than on the specifics of the staff development program."[1] The method a school system uses to plan and deliver inservice may directly reflect its attitude toward its staff.

School systems are faced with the dilemma of requiring their staff to learn new information and skills. Perpetual retooling is necessary to maintain relevancy, and educators must change for schools to change. Inservice is one of the key variables for schools to meet necessary changes and challenges.

Closer examination of the results of the three attitude questions shows the choice group in treatment strategy three

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[1]Milbrey W. McLaughlin and Paul Berman, "The Art of Retooling Educational Staff Development in a Period of Retrenchment," August, 1977, p. 5985.

(working alone--self-instructed) to have a more positive attitude than choice group two (attending a discussion) on two of the three attitude measures. Choice group one (presentation-lecture) had a more positive attitude than choice group two on one of the three attitude measures.

This additional finding shows that the teachers who chose to work alone were more positive about their experience than either of the other two choice groups. This would seem to indicate that the subjects in this study had a more positive preference for working alone than in attending a discussion or presentation session. A small indication is evident that attending a presentation was more valued than attending a group discussion. While the intent of this study was not to identify preferred modes of learning, these results are interesting and provide some further questions to explore. It is also possible that the same teacher would choose different delivery modes depending on the circumstances at the time of choosing. One can only speculate on causes, and the data presented support that all choice groups, regardless of treatment delivery mode, were more positive about having been given a choice.

Based on the results of this research it is suggested that teachers want to be responsible for making decisions for themselves. Inservice providers should consider giving teachers options of how they learn required information and skills if they want them to be more motivated about the

learning experience.

It has been shown in this research and reported by others that teachers will have a more positive attitude when given choices. It has also been found in each case cited that the choice group did not learn more than the control (assigned) group. This study reinforces that finding. Each of the three choice groups did, however, increase their knowledge of the Des Moines Spelling Plan. These data also suggest that all three strategies, as well as allowing people choosing within strategies, do not make a difference relative to overall knowledge gained. Null Hypothesis 4, teachers who are allowed to choose an inservice treatment strategy do not score higher on a knowledge test than those who were assigned to the strategy, is therefore accepted.

Null Hypothesis 5, choice and treatment are not independent, was rejected. No significant interaction was found for Group by Type.

One area built into this study and to this point not emphasized is the pre- and post-test design. If teachers were informed through the pre-test experience the learning to be expected, would their choice be influenced for how they would learn the desired information and/or skills? Identifying the objectives and/or goals expected and then holding teachers accountable for their accomplishment by providing support options for learning could be one way to communicate support for teacher self-direction while perhaps also

increasing their learning. This study did not provide pre-test information to the subjects. Further investigation in this area could be helpful in determining if choice options for learning can increase the learning as well as attitude of the learner.

The three options provided in this study were selected because they represented options ranging from a highly structured treatment strategy one (leader directed), less structured in a discussion format for treatment strategy two, learner control independent self-study for treatment strategy number three, and lecture in the first session and follow-up discussion in the second for treatment strategy number four. The conceptual levels of Hunt based on Piaget's social and academic structures provided the basis for these choices. These options are available to accommodate differing conceptual levels of the subjects which in turn determines the amount of external structure one needs to function effectively.

It is recognized that a person's conceptual level is but one variable to consider when determining choice options. Environmental pressures, as well as individual needs, all interact for the individual at the time of the decision.

The results of this study support the position of providing teachers a choice of how they learn district determined skills and information. When the adult was the decision maker, responsible for evaluating self needs, the required learning did take place and the subjects were more positive

about their experience. Through choice options for learning, schools can support their staffs in being self-directed, provide for individual needs, and increase teacher motivation for learning while fulfilling district goals and objectives.

The conclusions drawn from this research would indicate that schools can provide teachers with choices for instructional delivery modes of learning and expect that:

1. Gains in knowledge and skills will be made that are equivalent to the gains obtained when subjects are assigned to the same delivery mode.
2. Teachers, when given a choice, will value the experience more than teachers who are assigned to the same delivery modes.

Recommendations

The following recommendations are derived from the results and conclusions of this study and a synthesis of the literature review. School districts should:

1. Assist all staff to recognize and facilitate the complexities of human behavior and the teaching process. An understanding of their own adult development should help teachers become more affective in their work.
2. View the teacher as potentially growing and changing.
3. Provide an atmosphere of flexibility and personal

control rather than compliance for how staff learn required information and skills. Choice is one method.

4. View teachers as capable of self-direction and visibly support their efforts to learn and grow.
5. Recognize that many teachers want to learn and grow and have a positive attitude toward learning.

Based on the findings of this study, additional research is needed to:

1. Determine pre- and post-test impact on the learner's gained knowledge and choice of delivery mode.
2. Refine developmental theory as it applies to practice so curriculum can be matched to various stages of adult development.
3. Help establish guidelines that link cognitive-developmental theory to instructional interventions.
4. Find methods of promoting teacher development toward higher ego, moral and conceptual levels.
5. Examine the relationship between choice and variables such as self-concept, independence/dependence, idealism/realism, need for facilitation or direction, attitude toward authority, need for social support, has experience or is new, career commitment conflicted with family/outside interest, and concern with needs and goals being met.
6. Replicate this study in other locales with differing

subjects and options of inservice treatment modes to determine if both learning and attitude can be improved.

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APPENDIX A

SUBJECTS DROPPED FROM STUDY

Subjects Dropped From Study

Choice				Assigned				
Group 1	Group 2	Group 3	Group 4	Group 1	Group 2	Group 3	Group 4	Reason
1	3	4		2	2			Sick
	4	3						Attended wrong session
	2	1						Absence unknown
2	8	5			2	1		Post-test not monitored (2 weeks late)
	1							Did not take post-test
			3				20	Total delivery mode dropped (only 3 chose)

APPENDIX B

ATTITUDE QUESTIONS

Attitude Questions

A. What is your attitude toward the Des Moines Spelling Plan inservice you have just attended?

1	2	3	4	5
Very Negative	Negative	Neutral	Positive	Very Positive

B. Would this Des Moines Spelling Plan inservice be effective for other grade level teachers?

1	2	3	4	5
Definitely Not	No	Neutral	Yes	Definitely Yes

C. As you reflect on this inservice would it be a good method to use for other inservice days?

1	2	3	4	5
Definitely Not	No	Neutral	Yes	Definitely Yes

D. Why did you choose this method of inservice?

E. Would you like to have a choice for future inservice?

APPENDIX C

KNOWLEDGE TEST

Name _____ Group # _____

School _____ Grade _____

Date _____

DES MOINES SPELLING PLAN

1. All Des Moines teachers of second through sixth grade will be teaching the Des Moines Spelling Plan in the fall of 1982 because:

   a. Word lists have been revised.
   b. All teachers should teach the same program.
   c. Spelling program needed improvement.

2. Spelling is being dropped at the first grade level because:

   a. First grade students are not ready for spelling.
   b. The district will phase in first grade later.
   c. Other priorities do not allow time for spelling in first grade.

3. The purpose for teaching spelling is:

   a. Results are easily quantifiable.
   b. Students learn to write correctly.
   c. Students improve their reading.

4. A child is placed in a spelling group as a result of what test?

   a. Leveling Test.
   b. Placement Test.
   c. Group Test.

5. Children can be moved from one group to another:

   a. Every three weeks.
   b. Every four weeks.
   c. Every nine weeks.

6. The Des Moines Spelling Plan teaches the following skills:

   a. Proofreading; self-checking; spelling through writing.
   b. Self-checking; spelling through writing; word attack.
   c. Proofreading; self-checking; etymology.

7. Students are taught to study a spelling word by using a five-step process. List the five steps in sequential order.

   a.
   b.
   c.
   d.
   e.

8. What spelling activity is planned for Tuesday?

   a. Pretest.
   b. Optional writing activity.
   c. Mandatory writing activity.

9. What is the minimum weekly recommended time allotment to teach spelling?

   a. _____ (minutes).

10. Student progress is recorded by:

    a. Teachers record keeping.
    b. Students record keeping.
    c. Both students and teachers keeping records.

11. How can a student assigned to an easy list earn an A grade?

    a. It is impossible.
    b. Test out of the easy list.
    c. Score high on tests and writing activities.

12. Students spelling grades are determined by counting their test scores as

    _____% of their grade, and counting their writing activities as _____% of their grade.

13. The Des Moines Spelling Plan is:

    a. A criterion referenced program.
    b. A norm referenced program.

    According to the research of Loomer and Fitzsimmons, are the following statements true or false?

14. Presenting spelling words in list form, initially, is a more successful method than presenting words in sentence or paragraph form.

    True _____ False _____

15. The spelling words of highest frequency in child and adult writing should be studied by elementary children.

    True _____ False _____

16. The major contribution of spelling games is the stimulation of pupil interest.

    True _____ False _____

17. The child correcting his own spelling test, under the direction of the teacher, is the single most important factor in learning to spell.

    True _____ False _____

18. In order to spell, it is not necessary for children to learn the meaning of the majority of their spelling words.

    True _____ False _____

19. Spelling lists derived from the various curricular areas increase spelling ability.

    True _____ False _____

20. Learning words by syllables is a better technique than learning words by the whole method.

    True _____ False _____

21. The study of spelling should be between 60 and 75 minutes per week.

    True _____ False _____

22. Due to the nature of the English language, we should teach spelling by phonic rules.

    True _____ False _____

23. The study-test method is superior to the test-study method when working with most spellers.

    True _____ False _____

24. The presentation of words in syllabified form has not proven to have an advantage over the method of whole word presentation.

    True _____ False _____

25. To insure spelling retention, have a child write the words several times each.

True _____ False _____

26. Having children look at "hard spots" in a word to improve spelling is of little or no value.

True _____ False _____

Answer Sheet

1. (c) To improve the spelling program.

2. (a) First grade students are not ready for spelling.

3. (b) Students learn to write correctly.

4. (a) Leveling test.

5. (b) Every four weeks.

6. (a) Proofreading; self-checking; spelling through writing.

7. (a) Look at the word and say it aloud.
   (b) Close your eyes; picture the word; spell silently.
   (c) Look at the word to check spelling. If wrong start again.
   (d) Cover the word and write it. Check your spelling. If wrong start again.
   (e) Cover the word and write it again to help you remember the correct spelling.

8. (b) Optional writing activity.

9. 60 minutes.

10. (c) Both students and teachers keeping records.

11. (c) Score high on tests and writing activities.

12. Fifty percent.

13. A criterion referenced program.

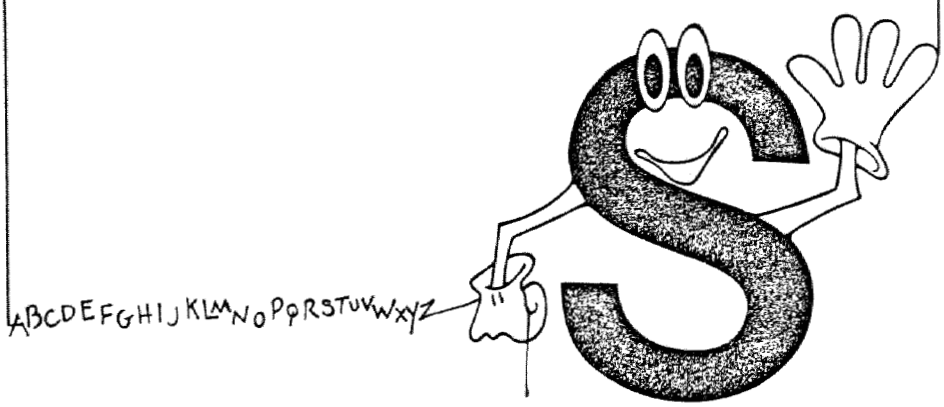
14. T
15. T
16. T
17. T
18. T
19. F
20. F
21. T
22. F
23. F
24. T
25. F
26. T

APPENDIX D

INFORMATION PACKET

DES MOINES SPELLING PROGRAM COMPONENTS

- WORD LISTS/TESTS
- STUDENT GRAPHS
- FOLDERS
- WRITING ACTIVITIES



BACKGROUND OF THE NEW DES MOINES SPELLING PLAN

The Des Moines Spelling Plan was revised at the request of teachers using the "old" individualized Des Moines Spelling Plan. Teachers felt the original plan was hard to manage since each student required a spelling test whenever they felt they were prepared. The record keeping system was also demanding. It required an individual card to be recorded each time a student took a test. At times it seemed that teachers kept "feeding" words to students but there was no follow-up. Teachers were also concerned whether there was a carry over from spelling into other curriculum areas. Another concern was that after the students passed a test on a certain group of words would they see or know the words if they ever saw them again?

When members of the Spelling Committee studied these requests and the latest spelling research they found that some words were placed on the wrong lists. The 'old' lists were compared to the words on the Iowa Spelling Scale published by the University of Iowa. Because of the word list inequities and teacher requests for a more manageable system the list was then revised.

Words were then placed into three lists rather than individual lists. The words were assigned to a grade level progression in this format. Using the Iowa Spelling Scale words were basically assigned into an easy list 70% and above - an Average list 40-69% and an accelerated list 39% and below. Lists were developed with a strict progression and repetition in mind.

To accommodate the second purpose the program was built around a strong emphasis on writing skills so that students could use their spelling words. According to Hillerich's work there is no other purpose for spelling but to write correctly.

All of the Des Moines elementary schools and transitional schools will be using this spelling plan in the fall of the 1982 school year. The schools will use this plan to facilitate spelling coordination because of student movement between schools and to help the district improve its spelling program by providing a concentrated spelling/writing and language program.

The new Des Moines Spelling Plan is definitely a spelling through writing program.

The "Thirteen Golden Nuggets" of the Iowa Spelling Study

The Iowa Spelling Study was conducted as a doctoral project by Robert J. Fitzsimmons and Bradley M. Loomer at the University of Iowa in 1971. The study has been published by the Iowa State Department of Public Instruction and the University of Iowa in the book Improved Spelling Through Scientific Investigation, now called Spelling Research and Practice (copyright 1977). With the purpose of determining the responses of Iowa teachers to a number of spelling practices, the researchers:

1. selected both positive and negative practices from research and literature;
2. presented those practices to a random sampling of Iowa teachers (1289); and
3. analyzed the resultant data and presented specific recommendations for spelling improvement--the "Thirteen Golden Nuggets."

A statement relating to SPELLING:

The field research has shown that:

1. presenting spelling words in list form, initially, is a more successful method than presenting words in sentence or paragraph form.

2. the spelling words of highest frequency in child and adult writing should be studied by elementary children.

3. the major contribution of spelling games is the stimulation of pupil interes

4. the child correcting his own spelling test, under the direction of his teacher, is the single most important factor in learning to spell.

5. in order to spell, it is not necessary for children to learn the meaning of the majority of their spelling words.

6. spelling lists derived from the various curricular areas are of little value in increasing spelling ability.

7. learning words by the whole method is a better technique than learning words by syllables.

8. due to the nature of the English language, most attempts to teach spelling by phonic rules are questionable.

9. the study of spelling should be between an hour and seventy-five minutes per week.

10. the test-study method is superior to the study-test method when working with most spellers.

11. the presentation of words in syllabified form has not proven to have an advantage over the method of whole word presentation.

STEPS TO SPELLING

1. LOOK at the new word.
   SAY it aloud.

2. CLOSE your eyes.
   PICTURE the word.
   SPELL it to yourself.

3. LOOK at the word to check your spelling.
   If you made a mistake, start over.

4. COVER the word and WRITE it.
   Check your spelling
   If you made a mistake, start over.

5. COVER the word and WRITE it again to
   help you remember the correct spelling.

LOOK at the new word.
Say it.

CLOSE your eyes.
PICTURE the word.
SAY the word.
SPELL the word out loud.

OPEN your eyes.
LOOK at the word again. Is it right?
If you made a mistake, start over.

COVER the word.
WRITE the word. Did you spell it right?
If you made a mistake, start over.

COVER the word again.
WRITE it again. Did you spell it right?

Summary of the Des Moines Spelling Plan

The Revised Des Moines Spelling Plan presents words in three lists for each grade level two thru eight. The words were taken from the Iowa Spelling Scale and compared to three other spelling plans for progression and repetition. A leveling test puts students into a list of words to meet their needs. The leveling test is given the first week of each semester. Students are given a pre test on Mondays without seeing the words and then a post test on Friday. The spelling time allotment for this program is 40-60 minutes a week.

Emphasis in this program is several fold: the student corrects his/her own spelling test under the direction of the teacher, students use the test-study method of learning words and spelling is correlated with writing.

Students may change from one group to another once during a four week period. There are several ways this may be done (See page 5). Maintenance tests are given every four weeks for student review.

Students' records and grades should be recorded 7 (E) 7 (Av) 7 (Acc). Abbreviations stand for easy, average, or accelerated lists. Because these words are in the full scale for each grade level, students on any list may earn an A if all activities are successfully completed.

Directions for Administering Spelling Tests

To begin the Des Moines Spelling program teachers need to administer the leveling test during the first full week of the school year. Teachers administer the 60 word test on any day of the week. The test can be broken down into two or three days if the teacher feels it is necessary. Teachers correct this test and score it as well as assigning students to a group. (See page 6 for directions)

The teacher now has 3 groups unless a special need exists for special education students, ESL students, and combination classrooms.

These groups may need special considerations. The leveling test is given the first week of both semesters. The rest of the week could be used for writing activities using words from the test selected by the teacher.

On Monday of the second week of the program, the teacher administers the first pre test. The students take the test without seeing the words. There are three possible methods to give the tests.

Method #1 - Teacher says Easy group word #1 is happy. I am happy today. happy. (Teacher always has the privilege of calling the groups by whatever name he/she feels appropriate. May be; e group. Tigers, red groups, etc.) Teacher then says Average group word #1 is ghost. The ghost is shaking the house. ghost. Finally, the teacher says Accelerated group word #1 is pleasing. She has a pleasing voice. pleasing. At this time the teacher then can show all 3 words immediately on the overhead, chart table, pocket chart, or chalkboard and orally spell each. Students use a red pencil and correct their own words. This method is useful because of the immediate self correction and all students have heard the correct spellings of all these words. The teacher proceeds until all of the words on each test have been given and checked.

Method #2 is a similar method but all words on each list are given before any correction takes place. If the word list has 25 words that means all 75 words for the 3 groups are given and then the teacher uses the overhead, chalkboard, chart tablet or pocket chart to orally check each word. Students use red pencils to check their work and make immediate corrections. This method is valuable because it too lets the students hear and see each spelling word.

Method #3 is worked like a reading period. Teachers would say Easy group number your paper from 1 to 25 for your pre test. Average group please use these words (teacher chooses words from an old list) to do this assignment. This assignment might be to write a letter to a friend using the words. The Accelerated group needs to use these words (words from a previous list) to make a short paragraph about roller skating. The teacher then returns to group 1 and gives test. Students correct their work with the teacher and then the teacher moves to group 2 after he/she assigns a spelling task to first group. This method is used bacause of the concentrated work with each small group.

Any of the above methods are acceptable for giving spelling pre tests on Mondays and the post tests on Fridays. Pre tests are self checked by

students under the direction of the teacher. Post tests are checked by teacher.

Since this program is basically a two day a week program - Monday pre test, and Friday - post test. It is then up to each building and each teacher to decide what activities are to be done on other days and in what periods. This is an excellent place to strengthen and correlate language skills.

After each pre and post test the student records his/her progress on their individual spelling chart. If 18 words were correct on the pre test the bar graph would be marked to 18 (See Appendix B for the Bar Graph) using a certain color; Ex., red. On Friday if the same student picks up all twenty words the next space is colored in another color to show the student, teacher and parent what was learned by studying. Students may need some practice with graphs but this skill is introduced in second grade, both in science and math and then it is a skill tested on the ITBS tests. What a good way to practice. Teachers record pre and post scores in their grade books weekly. They may use Appendix C to record class grades. Students also record in their folders the words missed each week. After 4 weekly tests there is a maintenance test which gives the students another look at the words which they have been studying during the past weeks. These tests can be administered just like the weekly tests. Maintenance tests have 35 words each. During the week of the maintenance test there is no pre or post test. Students should study the words on their personal lists which they have missed in the previous weeks using writing activities. Teachers may select the day the test can be given. Do allow time for study. Maintenance tests are always checked by the teacher. Students do record their results on graphs.

Students may change groups once every four weeks. If a student has received perfect or near perfect grades on spelling tests for 3 consecutive weeks he/she should be asked whether they would like to try the test on the next level. The teacher would say if you try it I will not even take a grade unless you want me to do so. If the student does well of course he/she will want the grade recorded. If the student doesn't do well simply record it was tried but not successful for the student at this time. Students may also be moved after the maintenance test is given.

Please encourage students to take a corrected form of their words home on Mondays. Let's try to have the students make these copies. If we never ask students to be correct in the application skills it just won't develop. If you must, a duplicated list can be sent home after Monday's test. Please remember this program is to improve spelling thru writing and whenever we give out a duplicated form we have weakened that objective.

Some recommendations for extended spelling work are: 1 - If students are scoring 100% on tests but need work in writing add dictation sentences to the end of all tests. Use words from the tests in sentences. To incorporate language skills simply make sure dictation sentence encompasses that skill. Ex., The man moved carefully through the field (Uses adverb). To extend this skill further start with one or two of the same sentences on both Monday and Friday then move to giving the sentence or sentences on Monday with a certain pattern (N V Adv) and students must make their own sentences on Friday with the same skills. 2 - Give students 5 more words weekly from extended lists. 3 - Eliminate post test for those who are doing well in both areas and have them use their time in developing writing skills through reports, outlines, etc. 4 - Add 5 words weekly from reading text, hobbies, special interests and other curriculum words.

Each student needs a pocket folder to keep his/her record chart, and word lists. Tests may either be kept in the folders for a reporting period or they may go home weekly. Monday's pre test in a corrected form needs to go home for study.

For some students who can not be successful taking a whole list, break the list into two parts. If the word list has 20 words give the first 10 words this week and the last 10 words next week. Do not just give the first 10 words on each list, this program is built on progression.

LEVELING TESTS

How To Form Spelling Groups

1. If less than 20 words are missed put into Accelerated list
2. If no more than 35 words are missed put in Average list.
3. If more than 35 words are missed put in Easy list.

1 - 19 = Accelerated
20 - 35 = Average
36 - 60 = Easy

Recommended Grading Scale

(2nd Grade)
(3rd Grade)
(4 - 5 - 6)
Extended list
and 7 and 8

95%	A	B	C	D	F
10 Words	10	9	8	7	6
15 Words	14	13	11	10	9
20 Words	19	17	15	13	12
25 Words	24	21	19	16	15

	A	B	C	D	F
35 Words Maintenance	33-35	31-32	29-30	28	27-

Below 65% failing

Spelling Activities

Possessives
Abbreviations
Crossword puzzles
Word searches
Synonyms
Antonyms
Make analogies
Make codes
Make into plurals
Add prefixes/suffixes
Make into compounds
Four types of sentences
Add adjectives
Classify if possible:
- sight words
- sound words
- taste words
- feeling words
- smell words

Use at least 2 words from list in sentence
Outline - paragraph
- 1 - describing
- 2 - informational
- 3 - explaining

Palindromes
Sign language
Make headlines and advertisements for: (propaganda probe)
Cooking utensils/steak special
New style of jacket
Phantom movie
Low cal candy
Write a fractured nursery rhyme
Paragraph - following directions
Editorial paragraph - different points of view
News article - stating facts
Writing conversation
Create similes and metaphors in a poem
Who - what - when - where story

<u>When</u>
one cold night
late last night
this morning
recently
soon
several years ago
not long ago
yesterday
today
tomorrow

What
landed
appeared
disappeared
chasing
riding
crying
visit
moving
shivered
surprise

Who
my best friend
my family
a lost kitten
the new neighbors
grandma and grandpa
my classmates
a couple of Martians
a wet dog
the magician
the pilot

Where
in the back yard
in a basket
across the street
on the farm
an old deserted house
home
next door
in a tree
the tenth floor
at the front door

Biography
Acrostics
Sentence with prepositional phrase
Sentence with conjunctions
Onomatopoeia
Mystery story
1. Characters
   A. Main character
      1. Occupation
      2. Description
   B. Minor characters (list them by name or description)
2. Plot
   A. Story problem
   B. Clues to the outcome
   C. High point of story (the most exciting point of the story)
   D. Solution of problem (final outcome)

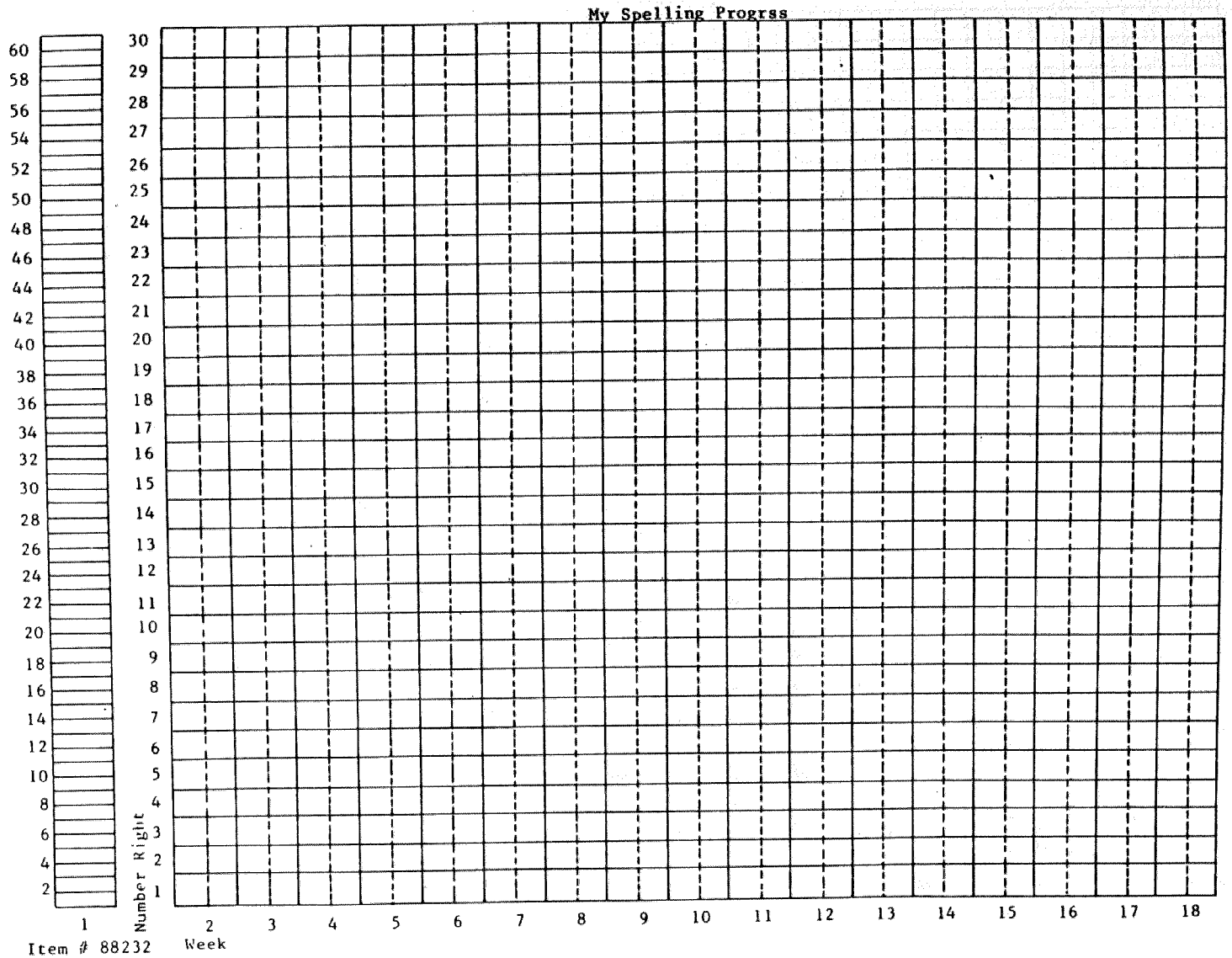
List ways we communicate - pick one and write a paragraph about why you like it best

Character sketch
Diamante
Humorous epitaphs
Parody
Haiku
Business letter
Cinquains
Personification
Alliteration
Write paragraph - revise/edit
News story
Triplet 
Shape poem
Myth -
- singing birds
- places where lions live
- rainbows after storms
- phases of moon
- tornadoes
- nightfall

Limericks
Argument against something (household chores, homework)
Shape to words

Name _____ School _____ Grade/Level _____

My Spelling Progrss



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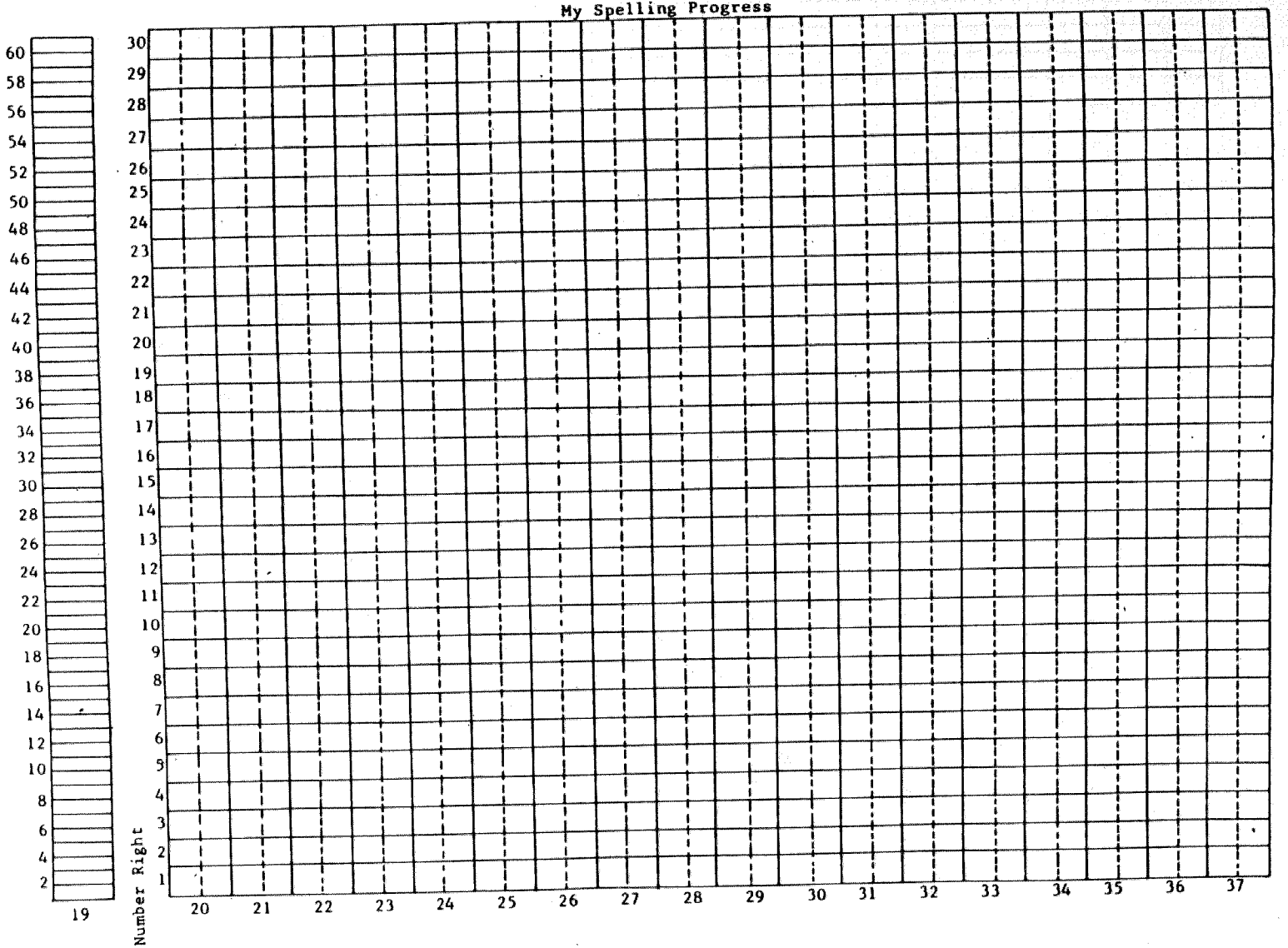
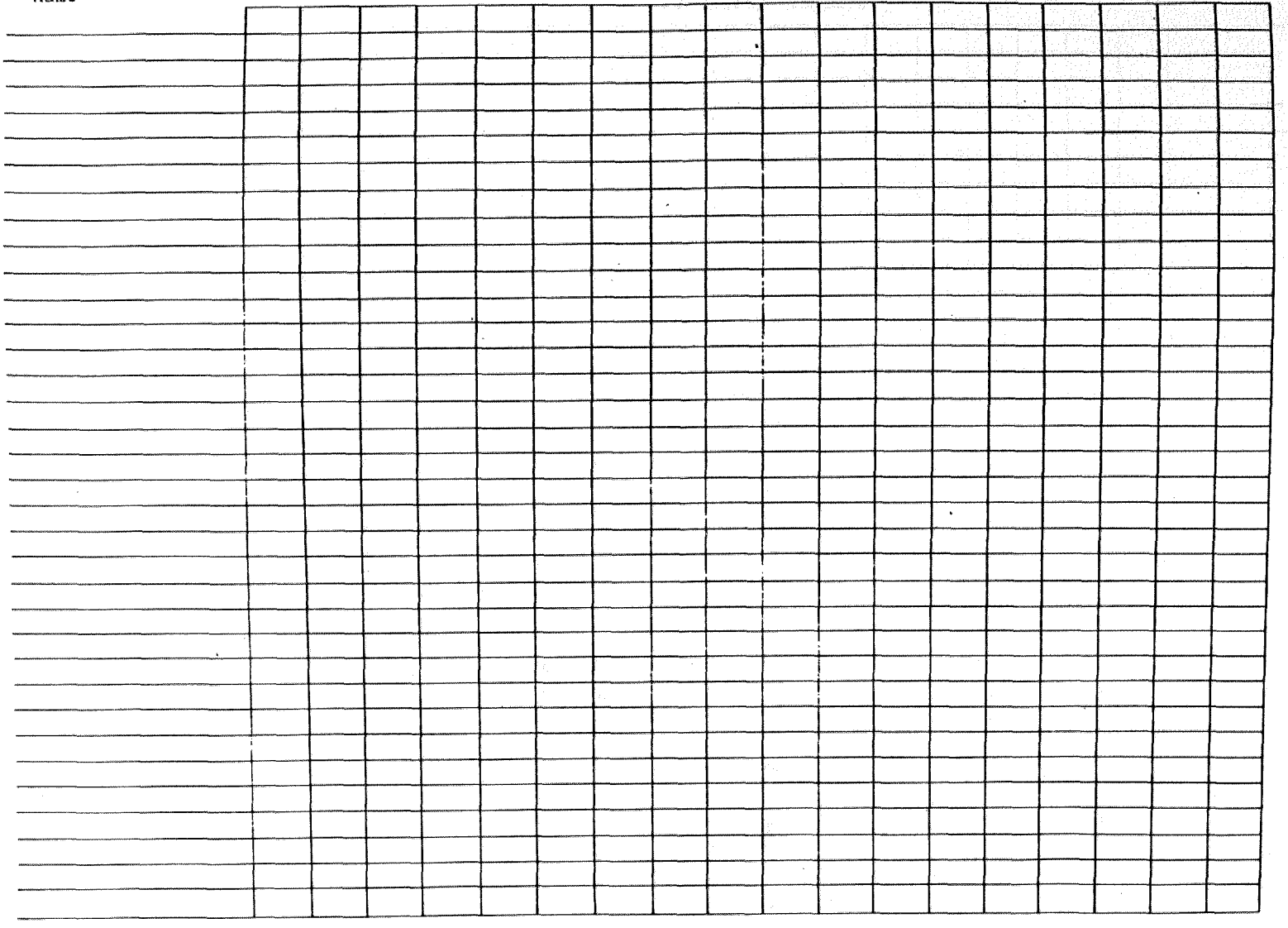
Name _____ School _____ Grade/Level _____

My Spelling Progress



Spelling Progress

Name



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Spelling Progress